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REPORT  
OF THE  
DEPARTMENT OF MINES  
OF PENNSYLVANIA

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Part I Anthracite

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1904

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WM. STANLEY RAY  
STATE PRINTER OF PENNSYLVANIA  
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## LETTER OF TRANSMITTAL

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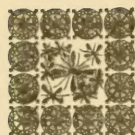
Department of Mines,  
March 30, 1905.

To His Excellency, Samuel W. Pennypacker, Governor of Pennsylvania:

Sir: In compliance with the Act of Assembly of April 14, 1903, I beg to submit herewith, for transmission to the General Assembly, the report of the Department of Mines for the year ending December 31, 1904. Part I covers in detail the operations in the fifteen Anthracite Districts, Part II the operations in the fifteen Bituminous Districts, as returned by the Inspectors. Observations and suggestions are also offered relative to mining subjects.

Respectfully submitted,

JAMES E. RODERICK,  
Chief of Department of Mines.





# REPORT

## OF THE

# DEPARTMENT OF MINES

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### INTRODUCTION

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Contrary to the expectation of many of the oldest observers of the coal trade, the production of anthracite in 1904 approached very closely to the record-breaking production of 1903. The decrease was only 1,638,216 short tons, or 2.18 per cent. In 1904 the production was 73,594,369 short tons, and in 1903, 75,232,585 short tons. The demand for domestic sizes continued remarkably even throughout the year owing to the operation of the discount plan. By this plan a discount of 50 cents a ton from the schedule price is offered on purchases made in April, with a gradual decrease of 10 cents a month in the discount during May, June, July and August. This method insures a more even distribution of coal throughout the year. The retail dealers and householders have a special inducement to make early purchases, which are stored for winter use, thus maintaining the tonnage during a period generally characterized by inactivity, and reducing proportionately the danger of congestion in shipping later in the season. The business depression of the early part of the year and the low-selling prices of bituminous coal, caused a lessened demand for the small or steam sizes, but later in the season, with an improvement in business came a decided improvement in this branch of the trade. The anthracite region enjoyed almost perfect immunity from strikes and labor troubles during the year.

The tonnage in the anthracite region has increased from 57,363,396 short tons in 1900, to 73,594,369 short tons in 1904, an increase of

16,230,973 tons, or 28.30 per cent. In the same time the bituminous production has increased from 79,318,362 tons to 99,600,167 tons, an increase of 20,281,805 tons, or 25.57 per cent. These figures indicate the tremendous extent of the coal industry of Pennsylvania and show clearly that while the development in other states in bituminous coal has been very great, it will be many years before the supremacy of Pennsylvania will be menaced. Pennsylvania is still by far the most important producer, supplying almost one-half of all the coal mined in the country. Practically all of the anthracite, and about 27 per cent. of the bituminous, are produced in Pennsylvania. The value of the gold and silver production of the country for the year 1904 was: Gold, \$84,551,300; silver, \$53,603,000; total, \$138,154,300. This is looked upon as great wealth to be extracted from the earth in one year's time, and yet it is almost insignificant when compared with the value of the coal produced during the same period. The value of the Pennsylvania production of coal at the points of distribution, for the year 1904, was about \$550,000,000.

## Summary of the Work of the Department (formerly Bureau) of Mines

Years	Letters written, copied and indexed	Letters received, docketed and filed	Blanks sent to mine inspectors	Letterheads and envelopes sent to mine inspectors	Rules general and special, sent to bituminous mine inspectors	Mine foremen's record books, 300 pages each, sent to bituminous mine inspectors	Fire bosses' daily record books, 350 pages each, sent to bituminous mine inspectors	Annual reports of the Department of Mines, shipped from office	English mine laws in pamphlet form sent to mine inspectors	Monthly narrative reports, 31 pages each, sent to mine inspectors	Books for recording accidents, 400 pages each, sent to mine inspectors
1898, .....	922	1,216	30,570	7,200	500	275	50	1,522	.....	.....	.....
1899, .....	697	972	42,374	26,188	2,612	279	.....	1,830	1,358	171	18
1900, .....	1,854	1,342	76,428	26,750	2,165	400	200	1,735	.....	455	17
1901, .....	1,465	1,690	67,408	28,200	350	30	15	2,373	.....	517	17
1902, .....	1,733	1,924	51,816	21,750	2,830	618	378	1,987	.....	.....	.....
1903, .....	2,901	2,328	89,070	35,000	2,080	173	90	4,052	11,250	475	11
1 04, .....	3,036	2,649	55,844	30,600	.....	37	.....	8,115	40,500	523	.....

Years	Reports of accidents received, copied and filed	Reports of inspections received, copied and filed	Daily reports of inspectors, showing duties performed and expenses incurred, copied and filed	Vouchers for incidental and other expenses compared and delivered to Auditor General	Anthracite mine laws translated into foreign languages and distributed	Bituminous mine laws translated into foreign languages and distributed	Books of mine foremen's and assistant mine foremen's certificates, 300 pages each, sent to mine inspectors	English mine laws in pamphlet form distributed	Mine inspectors' annual reports received, corrected and compiled for publication	Certificates of qualification issued to mine foremen and assistant mine foremen in the anthracite region after being recorded	Certificates of qualification issued to mine foremen of first grade and mine foremen of second grade in the bituminous region after being recorded
1898, .....	.....	.....	.....	.....	.....	.....	.....	.....	18	127	.....
1899, .....	2,235	3,846	5,416	576	.....	.....	.....	.....	18	181	.....
1900, .....	2,350	3,313	5,627	614	.....	.....	.....	.....	18	70	.....
1901, .....	2,719	2,486	6,024	656	.....	.....	.....	.....	20	206	.....
1902, .....	2,211	2,996	6,213	926	57,250	.....	.....	.....	20	235	.....
1903, .....	2,293	5,312	9,360	1,640	22,325	37,000	60	38,000	30	690	768
1904, .....	3,085	5,474	9,360	1,780	64,700	29,200	.....	.....	30	136	383



## MINE LAWS

In last year's report attention was called to the necessity of amending the mine laws of Pennsylvania, and the opinion was expressed that one law, modelled after the English law, would meet all the needs of this State. The mine law is enacted to safeguard the health and life of the employes and to preserve the property of the operators. Whatever tends to protect the life and preserve the health of the anthracite miners would fulfil the same purpose with the bituminous miners. It is not the duty of the Department of Mines to draw up a new code of mine laws, unless instructed to do so by the Governor, but we assume it to be our duty to call to this important matter the attention of the Governor, the Senators and the Representatives of the people, especially those representing mining communities. The Legislature should pass a resolution authorizing the Governor to appoint a commission, whose duty it should be to draft a mine law to meet, as far as possible, the present conditions of the mining industry. Or, two commissions might be appointed, one to revise the anthracite law, and one to revise the bituminous law. Both the operators and the mine workers are fully aware of the need that exists for the revision of the mining laws, but they are deterred from making an effort towards this end as each party fears that the other party might gain some advantage in the revision. The present mine law, it is well known, is merely a compromise, with a nullifying proviso attached to almost every clause of importance. In the composition of the last commission to amend the mine laws, the miners had a majority. To give a majority either to the miners or the operators is unfair, and can hardly be expected to produce satisfactory results. There is no valid reason why a commission should not be created to draft a law that would be fair and just alike to the employer and the employe. Any law emanating from a commission of operators, engineers and miners must necessarily be more or less of a compromise. A commission of men expert in mining matters, who have no financial interest in mining, should be named and given the power to look into the needs of the mining interests of the State. They should have the power to compel the attendance at their meetings of operators, engineers, superintendents, foremen, miners, mine inspectors, and any other persons who they think could enlighten them on the subject. After getting sufficient data they should call into consultation a constitutional lawyer of high repute, to draft the new law or laws. The representative operators, engineers, superintendents, foremen, miners, mine inspectors and other persons, who had given information to the commission, should be called together again and the proposed



act submitted to them. Any objections, corrections or amendments by any of the interested parties should be submitted to the lawyer, to be clothed in proper legal language. When this is done, a meeting should be called of the representatives of the different interests, including two operators, two mining engineers and four miners from the anthracite region, and the same number from the bituminous region, together with four mine inspectors, two from the anthracite region and two from the bituminous region. This should be the final hearing, after which a draft of the proposed law or laws should be completed and presented by the commission to the next Assembly.

The commission should be provided with ample means to enable it to pay each witness five dollars a day and actual traveling expenses. It should meet at intervals in Pittsburg and in Wilkes-Barre.

Another law, a metalliferous mine law, should also be enacted to cover all mining operations and quarries in the State. In the clay mines especially there is great suffering for lack of ventilation, and from the reports received at the department the death rate among the employes is proportionately as high as among the coal miners. The clay mines might be looked after by the bituminous inspectors, but in order to give proper attention to the other mines and quarries two more inspectors would be needed.

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## ACCIDENTS

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Accidents in and about the anthracite mines occur with alarming frequency. This is especially true of the accidents that result from falls of coal, slate and roof, and from mine cars. Many lives also are lost in the shafts by reason of deranged machinery or through the carelessness of the engineers. Two very serious accidents of this kind occurred during the year, one at the Auchincloss shaft, of the Delaware, Lackawanna and Western Railroad Company, by which 10 lives were lost, and the other at the Baltimore shaft of the Dorrance colliery, Lehigh Valley Coal Company, by which four lives were lost. In each case the engineer lost control of his engine. Descriptions of these accidents are given in the report of the Inspector of the Seventh district.

More accidents resulted from falls of coal, roof and slate than from any other cause. At least one-half of these accidents could have been avoided if the victims themselves, their co-employes, and the men directly in charge of the mines had been more careful. On an average, 6 lives are lost by "falls" to one by explosion of gas.

While the law demands that as the men advance in their workings, the persons in charge shall see that all dangerous parts are taken down, this is only partly done, and we cannot hope to reduce the number of accidents until both parties, employer and employe, perform their duties with greater fidelity. The employe should use his best judgment, especially when sounding doubtful parts of the coal, sides or roof, and should make an effort to take down, or to make secure by timber or otherwise, all such parts. The employer on his part should see that the foreman has a sufficient number of assistants to cover every working place in the mine at least once a day. He should see that the people who are actually engaged in the mining of coal are enabled to do so under the safest conditions possible. The foreman's assistants for this work could be designated timber bosses, and their special duty would be to examine the safety of the roof and sides of every working place, and to see that sufficient timber was furnished the miners, and that the miners put up the timber when needed. The timber boss should also make a note of the condition of each place as to its safety and as to the ventilation, and his observations should be recorded in a book to be kept in the mine office for the inspection of the foreman, the superintendent, and the miners, and especially for the inspector while on his tour of duty. Books for this purpose could be furnished by the Department of Mines. A penalty should be attached for any violation of the law on the part of the superintendent, foreman, timber boss or miners. We shall never have the pleasure of recording a reduction in the number of accidents from "falls" until there is a more systematic effort made by both employer and employe to keep the working places in a safer condition.

Of the 496 lives lost inside the mines during the year, 75 were lost in 23 accidents. The loss of life was as follows: By falls, 10; explosions of gas, 12; explosions of powder and dynamite 18; cars 4; falling down shafts, 9; fumes from mine fire, 5; fumes from locomotive in a tunnel, 10. The causes of these fatalities can be classified as follows: Negligence of victims, 14; negligence of others, 33; unavoidable, 28. It is a regrettable statement to make that of the 75 persons killed, 33, or 44 per cent., lost their lives by the carelessness of other people. There ought to be a law by which such carelessness would be made punishable by a heavy fine and imprisonment.

Of the 496 persons killed inside the mines, 3 were foremen, 1 fire boss, 233 miners, 145 miners' laborers, 31 drivers and runners, 20 door-boys and helpers, and 63 other employes. On the surface there were 99 fatal accidents, including 1 foreman, 5 blacksmiths and carpenters, 3 engineers and firemen, 11 slate pickers (men and boys), and 79 other employes. About 83.36 per cent. of the fatalities occurred inside the mines, and 16.64 per cent. outside. Of the 161,330 em-

ployes, 68.41 per cent. were employed inside, and 31.59 per cent. outside. Of the 496 fatal accidents inside the mines, about 75 per cent. occurred among the miners and miners' laborers. These two classes of employes are the heaviest sufferers in the way of fatalities. A reference to the accident tables will give more complete details.

Every year when the accidents that occur in and about the coal mines are analyzed, it is found that the responsibility rests to a great extent with the victims themselves. Of the 595 lives lost during the past year in and about the anthracite mines, 282, or 47.39 per cent., were lost through the negligence of the victims, 56, or 9.41 per cent., through the negligence of other persons. In the case of 53, or 8.91 per cent. of the accidents, the responsibility cannot be determined, and the remaining 204, or 34.29 per cent., are classed as unavoidable. These figures are truly a sad commentary on the supervision and carefulness of the persons most interested—the operators, superintendents, foremen and miners.

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### Accident at Williamstown Colliery, of the Summit Branch Mining Company

On the 25th of May an accident unusual in character and very severe in its results, occurred in the Williamstown tunnel. An investigation was made by Inspectors M. J. Brennan and Benjamin I. Evans, in the absence of Inspector Martin Kelly, who was sick at the time. The report of the investigation is as follows:

Hon. James E. Roderick, Chief of Department of Mines:

Dear Sir: We, the undersigned inspectors, having investigated the accident that caused the death of Michael Golden, mine foreman, Enoch Morgan, miner, Albert Nau, engineer, George Radle, machinist, Joseph Punch, laborer, John Kenney, miner, Burt James, miner, Torpedas Koppenhaver, outside laborer, Aaron Koppenhaver, outside laborer, and Henry V. Frederick, outside laborer, at Williamstown colliery, Summit Branch Mining Company, May 25, 1904, beg to submit the following report:

About 3:00 P. M., May 25, the No. 1 shaft locomotive on Bear Valley side ran into north end of tunnel with a trip of ten or twelve loaded cars, a distance of about 150 feet, to pass the switch in order to run trip to Bear Valley slope, east turnout, where all loaded cars are placed to make up trip for main line engine. While this engine was shifting a mine car loaded with plank, it jumped the track and dropped a distance of two or three feet to track below. About this time there were some men waiting for an accommodation car which the company had been in the habit of furnishing them for transportation to the south end of the tunnel, on the line of route to their

homes. Thinking that it would be some time before the car would be placed upon the track and would consequently be detained, they decided to walk through the tunnel. When they reached No. 7 or Skidmore vein, a point about 200 feet from the north end of the tunnel, they began to feel the effects of the gas and commenced to stagger, some of them falling to the tunnel floor. About this time the main line engine came close up to them from the south or Williamstown end of tunnel, with empty trip and miners aboard. They received a signal to stop. In an instant after stopping his engine the engineer and conductor became unconscious.

The men belonging to the crowd that were not overcome by the fumes, together with the men who arrived from south end of tunnel on empty trip, gathered together all the sick and unconscious persons and put them on board of the trip. A miner by the name of Williams jumped in the engine cab, threw the throttle wide open and ran the trip out through the north end of tunnel. After the trip arrived at the north end of tunnel, Walter Lewis, one of the men who had been picked up and placed upon the engine with others, started back into tunnel and came through to south or Williamstown end and gave the alarm. About the same time a telephone message had been received from the north or Bear Valley end warning them of the trouble in the tunnel. Michael Golden, general inside foreman, Thomas Bond, inside foreman, with a number of men following, responded to the call for help and went to the rescue, immediately following empty trip from southern or Williamstown end to north end of tunnel, and when they got to a point 1,400 feet south of north end of the tunnel Mr. Golden and Mr. Bond fell unconscious. Mr. Bond rallied sufficiently to help himself, but Mr. Golden died.

About this point in the tunnel is where the greater number of the suffocated men was discovered. It would appear to us, after making a thorough inquiry into the cause of the accident, that the first cause of trouble was that some of the miners coming from north end to Williamstown, rode out on outgoing trip and one or two of them being overcome by the fumes from the locomotive fell from the trip, causing commotion among the remainder, who in turn spread the alarm which caused the rescuers to run in haste without taking any precaution on their part.

In our opinion, if the mine foreman had taken the situation in at a glance and realized the possible consequences, he would or could have placed a temporary obstruction, such as canvas curtain, at south end of tunnel, and compelled the two fans to draw their air from north end of tunnel, and immediately relieved the situation and prevented the unnecessary loss of life. But in the excitement of the moment and his anxiety to relieve the sufferers, he underestimated the danger that he had to contend with. We feel satisfied that the victims were suffocated by coal gas from the locomotive, the accumulation of which at this particular time was due to high temperature on the surface, the effect of which caused the air to reverse, nullifying the action of the fan.

M. J. BRENNAN,  
Inspector, Twelfth District.

BENJAMIN I. EVANS,  
Inspector, Fourteenth District.



Number of employees inside and outside the mines; number of fatal accidents; number of fatal accidents per 1,000 employees; number of tons of coal mined per fatal accident inside, 1881 to 1904 inclusive

Years	Number of employees inside of mines	Number of fatal accidents inside	Number of lives lost inside per 1,000 employed	Production of coal in tons of 2,000 pounds for each life lost inside	Number of employees outside of mines	Number of fatal accidents outside	Number of lives lost outside per 1,000 employed	Number of lives lost inside and outside per 1,000 employed
1881, .....	45,619	234	5.13	146,165	30,412	19	1.28	3.59
1882, .....	50,764	250	4.92	140,230	31,436	41	1.36	3.54
1883, .....	56,268	271	4.87	137,764	35,153	49	1.39	3.53
1884, .....	61,922	286	4.62	127,513	39,151	46	1.17	3.28
1885, .....	62,961	296	4.61	131,834	37,419	42	1.12	3.31
1886, .....	63,930	236	3.69	166,046	39,114	43	1.10	3.71
1887, .....	67,716	270	3.99	156,153	38,801	46	1.19	2.97
1888, .....	78,688	317	4.03	147,114	43,530	47	1.08	2.98
1889, .....	74,178	359	4.87	128,763	45,486	58	1.28	3.32
1890, .....	74,613	323	4.39	139,276	46,306	55	1.19	3.15
1891, .....	76,569	272	4.86	123,656	46,739	56	1.20	3.47
1892, .....	82,088	361	4.40	141,903	48,212	57	1.18	3.21
1893, .....	86,387	388	4.49	136,188	51,682	68	1.32	3.30
1894, .....	87,901	368	4.19	138,497	52,038	78	1.50	3.19
1895, .....	89,271	374	3.97	160,872	54,454	67	1.23	2.93
1896, .....	91,798	430	4.54	125,217	55,290	72	1.30	3.34
1897, .....	95,512	372	3.88	141,347	53,745	51	.95	2.83
1898, .....	91,171	369	3.95	146,674	51,249	51	.99	2.89
1899, .....	92,167	389	4.22	155,574	48,437	72	1.49	3.28
1900, .....	94,149	358	3.80	160,233	49,684	53	1.07	2.86
1901, .....	98,434	411	4.48	152,142	49,217	72	1.46	3.47
1902, .....	98,377	245	*2.49	168,739	49,762	55	1.11	2.63
1903, .....	102,055	426	4.17	176,602	49,772	92	1.85	3.41
1904, .....	110,362	496	4.49	148,376	50,968	99	1.94	3.69

\*Year of the big strike, when an average of only 116 days was worked by the collieries.

Number of miners and miners' laborers employed in the mines; number killed and ratio of each class killed per 1,000 employed; average number of days worked by breakers; average production per day worked by breakers, 1881 to 1904 inclusive

Years	Number of miners employed	Number of miners killed	Number of miners killed per 1,000 employed	Number of miners' laborers employed	Number of miners' laborers killed	Number of miners' laborers killed per 1,000 employed	Average number of days worked by breakers	Average production per day worked by breakers, gross tons
1881	32,809	114	4.59	16,726	70	4.19	221	138,181
1882	32,813	135	5.91	15,225	56	3.68	218	143,584
1883	33,419	136	5.37	16,879	67	3.97	232	145,272
1884	27,169	122	4.87	19,606	81	4.13	192	169,590
1885	28,065	160	5.65	20,128	86	4.27	204	167,331
1886	27,679	131	5.04	17,068	68	3.98	196	177,437
1887	29,558	162	5.45	17,518	57	3.25	208	180,981
1888	31,547	100	4.89	21,952	87	3.96	218	191,002
1889	39,564	191	6.56	19,368	79	4.08	197	197,837
1890	28,206	100	4.70	18,620	95	5.10	210	191,268
1891	36,573	180	5.85	19,590	119	6.17	213	208,339
1892	36,779	189	6.11	22,110	120	5.43	203	226,428
1893	32,881	165	5.93	22,853	168	4.73	202	233,562
1894	33,377	218	6.54	23,942	91	3.80	175	260,035
1895	31,573	170	5.18	24,638	115	4.67	187	271,909
1896	37,693	204	5.51	26,350	134	5.09	170	282,790
1897	35,992	210	5.69	27,277	99	3.63	151	310,310
1898	36,377	176	4.84	24,060	124	5.15	151	312,220
1899	36,421	199	5.46	23,946	111	4.76	179	301,867
1900	36,802	184	4.99	24,613	95	3.86	176	301,007
1901	37,004	224	5.92	26,265	122	4.64	195	367,210
1902	36,792	114	3.13	25,443	62	2.44	*116	318,203
1903	36,823	262	5.49	27,523	110	4.00	211	318,350
1904	39,848	233	5.85	31,217	145	4.64	213	308,494

\*Strike during the year.

Washeries worked during the strike. The time was not computed in the average days worked.



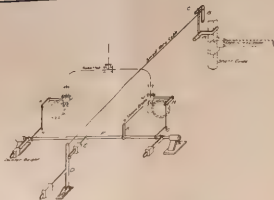
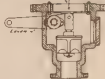


FIGURE 1 Previous Arrangement

On shaft C is shaft A, the end of which is connected to the trigger A. When the lever has passed a set screw above it and is extending forward above it, pressing B and causing the lever to move forward, it will not set the lever and releasing lever E which is held in position by a spring. When the lever is extended, it will set the lever and releasing lever E which is held in position by a spring. When the lever is extended, it will set the lever and releasing lever E which is held in position by a spring.



Detail of Lever A



Detail of Lever B

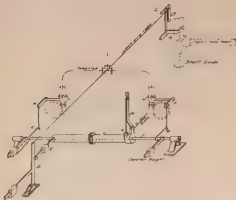


FIGURE 2 Showing Improvement

There is a free to move on shaft C and has lever E resting on lever D. When the lever has passed the set screw above it and is extending forward above it, pressing B and causing the lever to move forward, it will not set the lever and releasing lever E which is held in position by a spring.

This permits of the safety precautions. In the position as in case 1, the lever is in the position to set off a boom when desired. The operator releases trigger A which gives operation for setting lever of one steam engine instantly.

PREVIOUS AND IMPROVED ATTACHMENT  
FOR THE  
KOHLEBAKER-WILLIAMS OVERWINDING DEVICE



## OVERWINDING OR SAFETY DEVICE

Several years ago I inspected the Williams-Kohlbraker overwinding device that was in operation at the Luke Fidler shaft near Shamokin, Pa., and gave my opinion of it in the report of the Department (then Bureau) of Mines for the year 1900. I was convinced that it was a great success. I suggested an additional device that would give the engineer control of his engines at any point in the shaft or slope, especially when men are lowered and hoisted morning and evening, and recently the patentees have made some improvements in line with my recommendation. It is possible that had the perfected device been in operation it would have prevented the overwinding accident at the Dorrance and the loss of control of the engines on the part of the engineer at the Auchincloss shaft, two accidents through which fourteen persons lost their lives.

The new device is installed at the Susquehanna Coal Company's shaft at Glen Lyon, and in company with the manager, Mr. Robert A. Quin, and Mr. F. H. Kohlbraker, the superintendent, and several of the local officials, I made a careful inspection of it. After a thorough examination of the mechanical parts of the device, a practical test was made. By referring to the plan of the device accompanying this description, the method of operation will be seen. The engineer was instructed to hoist the cage from the landing, and after being raised about five feet it struck trigger "A," throwing the arm "B" and causing the lever "D" to fall, releasing the lever "E," which is connected with the valve immediately over the steam chest by shaft "F" and arms "G" and "K." This action closed the valves "J," thus shutting off the steam immediately at the point of entrance at the cylinders, and by reason of arm "K" and shaft "F" applying the brake at the same instant, the cage rose only one foot after striking the trigger "A." The test was very satisfactory, but as it was merely from the landing, the engineer was instructed to run the cage down the shaft some distance, and then put on a full head of steam, and let the engine go without touching the throttle. The device was operated in the same manner as in the previous test, but with the engines moving much faster. The cage this time stopped within three feet, the distance required for stopping being governed entirely by the efficiency of the brake.

In order to test the efficiency of the auxiliary appliance, which is installed for the purpose of aiding the engineer to control his engines in case anything should get wrong with the throttle valve (which is also shown on the plan), the engineer was instructed to

run the cage down several hundred feet and hoist with the throttle wide open. At a signal given by me the engineer released brake lever "M," which is placed on sleeve "L" shaft "F" resting on lever "D," and on the other end is a slot for trigger key "N." He freed the operation for closing valves "J," thereby applying the steam brake, which stopped the engine in from ten to twelve feet. This test was made at three different points in the shaft, with about the same result, showing that the engineer had absolute power to stop the cage at any point in the shaft if he saw or imagined that anything was wrong with the throttle or any part of the machinery.

I watched these tests closely and feel that the fact has been thoroughly demonstrated that with this, or similar appliances, placed on all hoisting engines at shafts or slopes where men are lowered and hoisted, the possibility of accidents from overwinding on account of the engineer losing his head and not shutting off the steam in time, or by forgetting to reverse the engines after leaving the landing, or in case of defect in the throttle valve or in the steam pipes between throttle and cylinders, will be reduced to a minimum.

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## MINE INSPECTION

During the past year the inspectors in the performance of their duties have made unusual efforts to comply with the law. The fifteen inspectors spent 2,401 days inspecting mines and machinery, 432 days investigating accidents, 52 days attending inquests, 195 days in consultation on mining matters, 20 days in consultation on legal matters, 58 days attending court, 180 days attending mine foreman and fire boss examinations, 79 days at mine fires, 55 days traveling on duty. More days were spent in the inspection of mines and machinery than in any previous year, and yet we regret to record an increase in the fatalities. Naturally, the greater attention given to inspection of the mines would result in greater security to life, but as the law absurdly requires that every little non-gaseous mine shall be inspected every two months, or as often as every large gaseous or dangerous mine, a great deal of time and labor are wasted that should be applied to mines requiring frequent inspection. Many mines are so nearly safe that it would be sufficient if they were visited once or twice a year, while others require constant attention. The inspector should be allowed to use his judgment in the performance of his duties. He should make frequent inspections of mines where trouble is apprehended, and should not be obliged to

make stated visits to mines that are considered safe. If the work of the inspector is to be measured by the number of miles he travels, it would be well to amend the law and make applicants eligible at twenty-one years of age instead of thirty, and then they should be pensioned at fifty, as they are in some other countries. If the same latitude in the matter of making inspections were allowed the inspectors in the anthracite region that is allowed them in the bituminous region, it is very probable that many accidents might be averted. The present law seems to be framed to bear as heavily as possible on the inspectors, in demanding that they shall visit the face of every working place once in every two months. This requirement is absolutely unnecessary. If the law were changed to make it once in every four or five months, perhaps the requirements could be complied with. If this is not done, and the words "every two months" are left in, the number of inspectors should be increased to at least thirty. If the present law is not amended at the next session of the Legislature, I will subpoena the inspectors to appear at the proper courts to show cause why they have not complied with its provisions. It is the duty of the Department of Mines to see that the inspectors carry out the provisions of the law, but the physical impossibility of meeting its requirements in the matter of making inspections, we think is sufficient cause for the action suggested, in order that the responsibility may be removed from the department and placed upon the courts of the Commonwealth.

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### MINE VENTILATION

The tables herewith will show the condition of the ventilation in the anthracite mines. It will be seen by reference to the first table that much more air enters the mines than is demanded by the law, and that on an average more air is circulated in the splits than is demanded by law. This is not positive evidence, however, that each split in every mine is properly ventilated, as the requirements are not adequate. The minimum under existing laws, now 200 cubic feet per minute, should be increased to at least 300 cubic feet. In several districts over 90 per cent. of the air entering the mines is circulated through the splits, but in other districts not more than 65 per cent.; the average is about 85 per cent. This shows that the operators have furnished more air per person employed than is required by law, and if there is any lack of ventilation the fault must

lie with the superintendents and foremen. It is possible that some of the mine inspectors are too lenient in demanding compliance with the law regarding this matter.

The second table shows a few mines in which the quantity of air required by law is not furnished. At these mines, especially the gaseous ones, there is no excuse for inefficient ventilation, and the inspectors should see that the law is complied with.

The two tables show that the ventilation in the anthracite coal mines of Pennsylvania is more than sufficient to meet the requirements of the law, with the very few exceptions named.

Ventilation of Mines

Districts	Number of inside employees on day shift	Amount of air entering mines at inlet—cubic feet	Amount of air entering mines for each employee—cubic feet	Amount of air circulating through the various splits—cubic feet	Amount of air circulating per each employee—cubic feet
First, .....	6,755	2,878,624	426	2,516,828	373
Second, .....	7,849	2,199,721	280	1,760,766	224
Third, .....	5,044	2,230,672	442	1,988,001	394
Fourth, .....	5,907	2,606,787	441	2,123,896	360
Fifth, .....	8,233	3,845,086	467	3,143,711	382
Sixth, .....	6,085	2,938,204	183	2,531,174	417
Seventh, .....	8,160	4,518,306	554	3,673,646	450
Eighth, .....	7,583	4,001,873	521	3,238,867	427
Ninth, .....	5,404	2,586,584	479	2,101,502	389
Tenth, .....	3,585	1,638,813	457	1,504,259	420
Eleventh, .....	2,851	1,285,863	451	849,144	298
Twelfth, .....	3,700	1,443,795	390	1,305,402	353
Thirteenth, .....	2,634	990,340	376	972,627	369
Fourteenth, .....	9,585	2,459,275	258	2,363,275	248
Fifteenth, .....	2,676	737,674	276	705,573	264
General average, .....			423		358



## Ventilation of Mines

District	Name of Mine	Number of inside employees on day shift	Amount of air entering mines at inlet—cubic feet	Amount of air entering mines for each employee—cubic feet	Amount of air circulating through the various splits—cubic feet	Amount of air circulating per each employee—cubic feet
Second, .....	Jermyn, .....	563	105,275	187	104,195	185
Second, .....	Grassy Island, .....	396	22,050	56	18,400	46
Second, .....	Eddy Creek shaft, .....	280	27,895	100	25,175	90
Second, .....	Eddy Creek No. 2 drift, .....	280	26,780	96	24,200	86
Second, .....	Eddy Creek No. 4 drift, .....	281	52,220	186	38,490	137
Second, .....	Sterrick Creek shaft, .....	250	29,595	118	17,745	71
Second, .....	Sterrick Creek tunnel, .....	381	53,400	140	46,400	122
Second, .....	Dolph, .....	293	77,330	264	51,300	175
Second, .....	Moosic Mt., .....	209	52,500	251	15,392	74
Second, .....	Mt. Jessup colliery, .....	257	50,378	196	21,280	83
Second, .....	Finn colliery, .....	117	27,500	235	15,300	131
Fifth, .....	Clarence No. 2, .....	63	10,000	159	8,000	127
Seventh, .....	No. 6 South shaft, .....	135	40,314	299	16,218	120
Seventh, .....	No. 6 North shaft, .....					
Thirteenth, .....	No. 8 shaft, .....	168	19,300	115	19,300	115
Thirteenth, .....	No. 12 slope, .....	165	13,000	79	17,000	103



TABLE AA.—Number of tons of coal mined, number of days worked, number of persons employed, number killed and injured, quantity of powder and dynamite used, etc.

Districts	Number of tons of coal shipped to market	Number of tons used at collieries for steam and haul	Number of tons sold to local trade and used by employees	Total production of coal in gross tons	Average number of days worked	Number of employees	Number of fatal accidents	Number of non-fatal accidents	Number of kegs of powder used	Number of pounds of dynamite used	Number of horses and mules
First, .....	4,042,650	305,314	57,391	4,465,355	202	11,154	39	52	168,527	186,376	912
Second, .....	3,315,398	284,277	37,519	3,638,194	189	16,419	28	60	127,971	186,632	971
Third, .....	3,880,676	244,314	246,334	4,370,324	188	9,720	36	84	161,175	111,680	1,085
Fourth, .....	5,099,457	223,928	61,767	5,294,252	187	11,385	34	71	195,402	106,617	1,179
Fifth, .....	4,119,904	318,554	48,277	4,486,715	207	12,607	45	66	178,254	303,736	1,452
Sixth, .....	3,857,173	386,735	70,338	4,334,216	168	11,532	53	78	160,347	522,923	1,308
Seventh, .....	4,472,609	436,769	249,201	5,298,519	210	12,321	63	115	144,399	513,692	1,418
Eighth, .....	5,670,132	411,567	186,964	6,118,663	179	12,551	38	73	154,236	256,896	1,523
Ninth, .....	3,667,594	458,538	132,361	4,611,197	176	15,732	48	86	117,266	1,635,437	1,764
Tenth, .....	3,697,654	458,538	132,361	4,611,197	176	15,732	48	86	117,266	1,635,437	1,764
Eleventh, .....	3,203,656	452,116	46,895	3,892,977	212	9,158	24	40	53,852	487,304	854
Twelfth, .....	3,971,727	491,029	38,489	4,501,676	217	8,881	27	47	56,407	550,579	864
Thirteenth, .....	2,640,354	362,870	62,928	3,065,170	229	8,229	33	122	47,329	670,317	897
Fourteenth, .....	4,271,163	523,882	106,533	4,925,578	227	14,315	46	54	123,233	405,704	1,430
Fifteenth, .....	1,390,429	244,821	38,892	1,674,142	253	4,365	23	36	19,616	278,793	505
Totals, .....	58,155,288	6,171,745	1,375,242	65,799,256	211	161,329	556	1,047	1,791,192	6,519,312	17,085

TABLE AA—Continued.

Districts	Number of Boilers			Locomotives			Number of steam engines of all classes	Total horse power	Number of pumps delivering water to surface	Capacity in gallons per minute	Quantity delivered to surface per minute—gallons	Number of electric dynamos	Number of air compressors	
	Cylindrical			Steam										Electric
	Horse power	Tubular	Horse power	Steam	Air									
First, .....	139	7,840	135	17,636	25,476	24	29	27	302	27,373	47,900	31,507	17	
Second, .....	165	5,087	84	13,358	18,445	24	6	5	247	22,057	61,181	28,804	13	
Third, .....	72	5,843	56	10,202	16,045	10	5	23	293	18,165	37,578	25,870	12	
Fourth, .....	173	6,547	77	11,885	18,432	19	.....	7	324	20,125	34,108	21,931	9	
Fifth, .....	102	3,305	157	25,720	29,025	31	7	10	447	28,997	51	24,368	6	
Sixth, .....	125	4,110	152	24,186	28,305	15	3	14	348	25,054	56	56,459	24	
Seventh, .....	113	4,265	158	30,750	35,015	29	4	5	429	46,351	31	31,526	16	
Eighth, .....	211	7,175	136	21,890	29,065	20	1	7	472	41,445	37	15,701	20	
Ninth, .....	276	8,143	340	54,111	62,254	106	13	.....	614	36,178	113	121,183	21	
Tenth, .....	114	4,644	202	27,975	32,619	18	3	.....	332	36,581	44	66,259	11	
Eleventh, .....	102	960	159	26,420	27,380	16	11	.....	323	32,370	44	32,869	9	
Twelfth, .....	191	5,270	213	29,311	34,581	21	.....	5	230	45,912	57	50,800	11	
Thirteenth, .....	234	10,061	164	21,780	31,841	34	4	.....	308	21,149	53	53,591	13	
Fourteenth, .....	124	4,058	227	29,270	33,328	25	2	4	370	41,836	95	68,955	2	
Fifteenth, .....	127	5,074	80	14,915	19,989	20	.....	5	154	13,611	25	16,949	11	
Totals, .....	2,198	82,380	2,370	353,418	441,798	412	88	115	5,122	459,265	770,286	446,120	100	

TABLE A.—Number of each class of employes in each district

Districts	Occupations of Persons Employed Inside.										Occupations of Persons Employed Outside.								Total outside	Grand total inside and outside	
	Mine foremen	Assistant mine foremen	Fire bosses and assistants	Miners	Miners' laborers	Drivers and runners	Door boys and helpers	Pumpmen	Company men	All other employes	Total inside	Superintendents	Foremen	Blacksmiths and carpenters	Engineers and firemen	State pickers (boys)	State pickers (men)	Book-keepers and clerks			All other employes
First, .....	27	17	35	2,934	2,971	962	256	88	661	488	8,439	8	20	140	297	630	388	26	1,176	2,745	11,184
Second, .....	28	24	22	2,798	2,933	1,068	214	55	549	156	7,847	9	22	130	285	547	49	36	1,115	2,583	10,440
Third, .....	26	11	56	2,333	2,439	1,120	233	48	537	545	7,348	12	24	183	195	682	241	44	1,068	2,372	9,720
Fourth, .....	29	9	48	2,974	2,813	1,022	248	55	730	402	8,330	.....	31	129	194	906	213	42	1,360	3,005	11,335
Fifth, .....	38	9	63	3,391	2,952	1,227	222	67	603	633	9,205	4	22	210	338	170	413	51	1,584	3,402	12,607
Sixth, .....	30	15	53	3,240	2,278	1,044	255	94	594	518	8,121	15	28	189	306	866	285	58	1,464	3,211	11,332
Seventh, .....	26	18	56	2,810	2,584	973	429	60	1,026	641	8,763	6	19	211	422	906	314	57	1,739	3,704	12,327
Eighth, .....	24	21	60	3,063	2,763	1,015	437	61	867	687	8,980	9	22	357	528	892	250	47	1,331	3,274	12,254
Ninth, .....	47	52	70	3,629	2,413	1,795	227	122	569	1,580	9,121	13	20	352	708	945	750	74	3,309	6,781	15,302
Tenth, .....	24	14	71	1,413	1,952	392	109	48	395	1,268	5,741	10	23	165	413	865	412	37	2,044	3,984	9,738
Eleventh, .....	15	12	73	1,929	1,552	397	118	46	398	1,268	5,677	4	12	115	305	979	482	37	1,579	3,207	8,884
Twelfth, .....	26	18	83	2,178	1,922	412	98	30	508	1,252	5,577	12	26	133	357	638	237	47	1,579	3,207	8,884
Thirteenth, .....	27	28	53	1,816	1,930	371	112	46	639	1,129	5,151	16	27	146	357	609	460	29	1,434	3,088	8,239
Fourteenth, ..	28	30	169	4,231	1,512	670	167	85	1,025	1,391	9,248	19	24	195	511	1,358	306	60	2,624	5,097	14,345
Fifteenth, ...	12	17	29	1,019	1,452	254	46	48	85	716	2,688	4	10	93	209	305	69	22	955	1,617	4,305
Totals, ..	407	296	901	39,843	31,217	11,607	3,173	953	9,186	12,774	110,362	142	341	2,518	5,240	12,128	5,599	681	24,319	50,968	161,330



TABLE C.—Causes of non-fatal accidents in and about the mines, and number attributable to each cause

Causes of Accidents Inside	Districts															Total	Percentage
	First	Second	Third	Fourth	Fifth	Sixth	Seventh	Eighth	Ninth	Tenth	Eleventh	Twelfth	Thirteenth	Fourteenth	Fifteenth		
Falls of coal, slate and roof.	22	21	35	27	26	18	50	16	16	14	13	14	36	18	13	529	38.96
Mine cars.	13	11	13	17	10	20	16	19	16	7	5	16	23	8	9	184	24.67
Explosions of gas and dust.	4	6	3	1	13	12	6	8	8	4	10	7	24	13	5	113	13.38
Explosions of powder and dynamite.	1	1	5	3	4	2	3	3	5	1	3	4	3	1	3	41	4.61
Explosive blasts.	8	6	8	7	4	8	11	16	8	2	6	4	6	2	3	90	10.11
Crushing into shafts, slopes, etc.							7		3		1				1	7	.79
Crushing at batteries.										1						1	.11
Killed by mules.			2	4	1		1	4	1	3		3				7	.82
Suffocation from gas or otherwise.																22	2.47
Machinery.	2	6	7	3	6	7	11	6	9	14	4		11	7		96	10.73
Miscellaneous.																	
Totals.	59	54	73	62	58	67	95	73	63	46	42	39	98	49	22	890	100.00
Causes of Accidents Outside																	
Cars.	1	1	5	6	3	4	10	3	6	3	4	3	12	3	3	66	42.03
Machinery.					3	3	4		1	2	2	3	1	1	4	26	16.56
Suffocation in chutes, etc.				1	1	3											
Roller explosions.																	
Miscellaneous.	1	5	5	2	2	4	6	3	13	3	2	3	11	1	1	62	38.49
Totals.	2	6	11	9	8	11	20	6	23	8	8	8	24	5	8	157	100.00
Grand totals inside and outside.	52	60	84	71	66	78	115	79	86	53	50	47	122	54	30	1,047	.....



TABLE D.—Number of gaseous and non-gaseous mines, number of foremen, assistants and fire bosses, production of coal from gaseous and non-gaseous mines and washeries, and percentage of production from each district

Districts	Number of gaseous mines	Number of foremen and assistant foremen in gaseous mines	Number of fire bosses in gaseous mines	Number of non-gaseous mines	Number of foremen and assistant foremen in non-gaseous mines	Production in tons from gaseous mines	Production in tons from non-gaseous mines	Production in tons from washeries	Percentage of production from gaseous mines	Percentage of production from non-gaseous mines	Percentage of production from washeries
First, .....	12	12	54	22	23	2,331,206	1,934,027	201,122	52.20	43.30	4.50
Second, .....	7	23	22	28	29	1,361,940	2,065,420	210,834	37.43	56.77	5.80
Third, .....	18	31	56	7	6	3,776,636	54,491	549,797	86.21	1.24	12.55
Fourth, .....	23	31	48	16	7	4,376,337	139,434	767,881	82.49	3.01	14.50
Fifth, .....	30	34	59	20	13	3,493,873	850,241	142,601	77.87	18.95	3.18
Sixth, .....	34	30	69	17	15	3,572,711	714,732	56,743	82.24	16.45	1.31
Seventh, .....	42	34	55	8	4	4,362,085	197,568	108,486	94.12	3.79	2.09
Eighth, .....	25	36	53	13	3	3,093,569	373,139	96,555	81.35	10.59	8.13
Ninth, .....	28	36	42	73	6	3,589,467	3,309,286	.....	87.44	50.56	.....
Tenth, .....	17	32	71	4	6	3,812,977	.....	180,744	100.00	4.62	4.45
Eleventh, .....	18	27	73	.....	12	3,096,570	230,981	173,716	88.44	.....	.....
Twelfth, .....	28	52	82	4	12	3,186,888	845,859	33,393	71.32	6.60	4.96
Thirteenth, .....	18	32	51	16	23	3,743,958	1,040,888	140,732	76.01	27.59	1.09
Fourteenth, .....	24	40	89	28	18	.....	.....	.....	100.00	21.13	2.86
Fifteenth, .....	18	29	29	.....	.....	1,674,142	.....	.....	.....	.....	.....
Totals, .....	332	474	860	253	229	50,207,627	12,430,427	3,071,804	76.41	18.92	4.67

TABLE E.—Quantity of coal produced by each company that produced 500,000 or more tons, and the number of persons employed

Names of Companies	Numbers of Inspection Districts	Production of Coal in Tons		Employees
		1912	1913	
Philadelphia and Reading Coal and Iron Company, .....	Tenth, Eleventh, Twelfth, Thirteenth, Fourteenth, Fifteenth, ..	10,152,421	10,152,421	25,425
Delaware and Hudson Company, .....	First, Third, Fourth, Sixth, Seventh, Eighth, .....	7,827,885	7,827,885	11,840
Delaware and Wilkes-Barre Coal Company, .....	Fourth, Fifth, Sixth, Seventh, Ninth, Tenth, Eleventh, Fifteenth, ..	5,619,903	5,619,903	13,294
Pennsylvania Coal Company, .....	First, Second, Third, Fourth, Fifth, Sixth, Seventh, Eighth, ..	5,504,473	5,504,473	15,193
Susquehanna Coal Company, .....	Second, Eighth, Thirteenth, .....	3,849,793	3,849,793	7,755
Serauton Coal Company, .....	Seventh, Tenth, Fourteenth, .....	3,046,915	3,046,915	8,497
Lehigh Coal and Navigation Company, .....	First, Third, .....	2,486,544	2,486,544	7,780
Hillside Coal and Iron Company, .....	Second, Third, Fourth, Fifth, Sixth, .....	2,403,194	2,403,194	6,250
Coxe Brothers and Company, Incorporated, .....	Ninth, Third, .....	2,105,858	2,105,858	4,756
Temple Iron Company, .....	First, Second, Fifth, .....	1,387,819	1,387,819	3,891
Kingston Coal Company, .....	Ninth, Thirteenth, .....	1,243,707	1,243,707	2,789
Parish, Markle and Company, .....	First, Sixth, .....	1,196,181	1,196,181	3,183
Parish, Markle and Company, .....	Ninth, .....	1,151,248	1,151,248	2,422
Mineral Railroad and Mining Company, .....	First, Eighth, .....	1,078,650	1,078,650	2,633
A. Pardee and Company, .....	Ninth, .....	580,106	580,106	1,710
Totals, .....		489,614	489,614	1,267
		50,835,667	50,835,667	123,790

TABLE F.—Classification of employees killed or fatally injured in and about the mines, 1883 to 1904 inclusive

Years	Inside Employees						Outside Employees						Grand total		
	Mine foremen	Fire bosses	Miners	Miners' laborers	Drivers and runners	Door boys, etc.	All others	Total inside	Foremen	Blacksmiths and carpenters	Engineers and firemen	State pickers		All others	Total outside
1883.	2	1	136	67	47	18	3	274	1	7	11	7	24	49	323
1884.	1	1	132	81	28	13	30	286	4	4	9	12	21	46	332
1885.	2	3	160	86	16	6	10	299	4	4	6	13	16	42	332
1886.	2	2	131	68	18	6	9	236	1	3	6	9	26	43	219
1887.	1	3	102	57	23	10	72	270	3	1	3	6	32	46	316
1888.	1	1	169	87	33	9	16	317	1	1	3	6	37	47	374
1889.	4	2	191	79	39	10	11	339	1	1	9	10	41	58	387
1890.	1	4	146	95	37	8	21	323	1	13	9	12	21	55	378
1891.	1	6	150	114	38	7	22	372	1	6	8	11	40	66	428
1892.	3	4	180	111	39	8	16	361	2	2	4	11	45	57	418
1893.	3	1	193	108	47	12	22	388	2	3	4	11	53	68	476
1894.	1	1	218	91	38	5	15	368	4	3	4	12	62	78	446
1895.	3	4	179	115	33	7	14	354	3	3	4	13	47	67	421
1896.	3	2	210	134	46	10	29	430	3	3	4	12	53	72	502
1897.	3	4	204	99	26	4	23	372	4	4	2	6	39	51	423
1898.	3	2	176	124	33	6	12	360	1	1	6	13	33	51	411
1899.	2	2	199	111	39	18	15	389	1	2	6	10	53	72	461
1900.	3	5	184	95	33	8	33	358	2	2	5	9	40	53	411
1901.	5	2	224	122	45	6	37	441	2	2	5	12	58	72	513
1902.	3	3	114	62	27	5	32	245	1	2	7	12	34	55	300
1903.	3	2	202	110	46	12	31	426	1	4	6	9	72	92	518
1904.	3	1	233	145	31	20	63	496	1	5	3	11	79	99	595
Totals, .....	50	58	3,868	2,169	762	208	589	7,695	12	66	110	223	918	1,329	9,024

TABLE G.—Number and causes of fatal accidents in and about the mines, 1883 to 1904 inclusive

Years	Inside of Mines										Outside of Mines						Total	Total outside	Grand total			
	By Falls of		By Explosions of					By Collapsing			Outside of Mines											
	Coal	State and roof	By mine cars	Gas and dust	Powder and dynamite	Blasts, etc.	Shafts	Slopes	Manways and breasts	By Explosions of			Pushed at batteries	By mules	By suffocation	Miscellaneous causes				By boiler explosions	Miscellaneous causes	
										By Explosions of	By Falling Into	By Collapsing										
1882	5	65	24	23	11	35	14	1	1	1	1	1	1	1	1	1	1	1	23			
1883	4	61	34	15	11	58	11	1	1	1	1	1	1	1	1	1	1	1	32			
1884	4	61	34	35	11	58	11	1	1	1	1	1	1	1	1	1	1	1	32			
1885	4	61	34	35	11	58	11	1	1	1	1	1	1	1	1	1	1	1	32			
1886	4	61	34	35	11	58	11	1	1	1	1	1	1	1	1	1	1	1	32			
1887	4	61	34	35	11	58	11	1	1	1	1	1	1	1	1	1	1	1	32			
1888	4	61	34	35	11	58	11	1	1	1	1	1	1	1	1	1	1	1	32			
1889	4	61	34	35	11	58	11	1	1	1	1	1	1	1	1	1	1	1	32			
1890	4	61	34	35	11	58	11	1	1	1	1	1	1	1	1	1	1	1	32			
1891	4	61	34	35	11	58	11	1	1	1	1	1	1	1	1	1	1	1	32			
1892	4	61	34	35	11	58	11	1	1	1	1	1	1	1	1	1	1	1	32			
1893	4	61	34	35	11	58	11	1	1	1	1	1	1	1	1	1	1	1	32			
1894	4	61	34	35	11	58	11	1	1	1	1	1	1	1	1	1	1	1	32			
1895	4	61	34	35	11	58	11	1	1	1	1	1	1	1	1	1	1	1	32			
1896	4	61	34	35	11	58	11	1	1	1	1	1	1	1	1	1	1	1	32			
1897	4	61	34	35	11	58	11	1	1	1	1	1	1	1	1	1	1	1	32			
1898	4	61	34	35	11	58	11	1	1	1	1	1	1	1	1	1	1	1	32			
1899	4	61	34	35	11	58	11	1	1	1	1	1	1	1	1	1	1	1	32			
1900	4	61	34	35	11	58	11	1	1	1	1	1	1	1	1	1	1	1	32			
1901	4	61	34	35	11	58	11	1	1	1	1	1	1	1	1	1	1	1	32			
1902	4	61	34	35	11	58	11	1	1	1	1	1	1	1	1	1	1	1	32			
1903	4	61	34	35	11	58	11	1	1	1	1	1	1	1	1	1	1	1	32			
1904	4	61	34	35	11	58	11	1	1	1	1	1	1	1	1	1	1	1	32			
Totals,	1,561	2,350	1,105	714	291	565	223	91	64	18	58	159	393	7,655	478	287	53	67	1,329	9,024		

\*Nanticoke disaster; 93 persons were entombed by an intruder of quicksand.

†Twin shaft disaster; 95 persons were entombed.

TABLE H.—Nationality of employees killed or fatally injured in and about the mines, 1892 to 1904 inclusive

Years	American	English	Welsh	Scotch	Irish	German	Polish	Hungarian	Italian	Slavonian	Lithuanian	Austrian	Russian	Greek	Swedish	French	Tyrolian	Bohemian	Assyrian	Canadian	Total
1892.	88	33	40	2	63	18	96	43	14	9	9	3	3	2	1	1	1	1	1	1	418
1893.	73	36	41	1	75	25	120	39	19	15	3	6	1	1	2	1	1	1	1	1	436
1894.	76	37	43	4	76	27	91	62	16	2	1	7	2	1	2	1	1	1	1	1	446
1895.	78	18	30	1	73	23	113	61	18	4	4	4	1	3	1	1	1	1	1	1	421
1896.	86	33	38	3	87	17	132	61	11	3	8	6	7	8	1	1	1	1	1	1	502
1897.	63	31	38	1	77	22	107	41	12	7	6	7	2	4	3	1	1	1	1	1	423
1898.	73	21	47	1	88	22	114	36	13	6	1	9	12	4	1	1	1	1	1	1	415
1899.	66	27	39	7	77	13	102	27	13	6	1	10	4	1	5	1	1	1	1	1	461
1900.	67	28	39	4	43	21	126	31	13	13	5	7	14	2	1	1	1	1	1	1	411
1901.	135	22	24	6	78	15	164	31	13	13	12	8	12	2	1	2	1	1	1	1	513
1902.	80	11	15	2	28	15	64	13	13	13	17	8	13	2	3	1	1	1	1	1	300
1903.	138	17	30	5	50	26	125	19	23	27	17	25	13	1	2	1	2	1	1	1	518
1904.	135	23	26	3	38	18	166	23	35	38	40	21	23	1	3	1	1	1	1	1	536
Totals.	1,192	332	425	38	793	265	1,522	466	240	178	149	121	101	24	17	5	7	1	1	1	5,879



TABLE I.—Fatal accidents in and about the mines, 1890 to 1904 inclusive

Districts	1890	1891	1892	1893	1894	1895	1896	1897	1898	1899	1900	1901	1902	1903	1904
First	64	909	55	51	47	59	51	52	51	68	40	58	29	25	29
Second	40	.....	23	25	41	34	108	38	31	49	55	63	24	33	28
Third	.....	.....	70	64	51	69	168	63	85	62	59	84	48	39	56
Fourth	100	60	96	84	77	74	173	99	85	81	71	78	52	42	34
Fifth	52	33	48	58	58	52	42	39	92	73	40	60	25	47	47
Sixth	66	33	66	67	71	59	67	73	72	73	65	63	52	46	53
Seventh	39	56	44	47	78	54	76	45	46	52	44	62	37	34	38
Eighth	17	28	45	47	78	54	76	45	46	52	44	62	37	34	38
Ninth	.....	.....	59	27	29	35	56	38	37	52	52	35	23	27	27
Tenth	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Eleventh	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Twelfth	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Thirteenth	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Fourteenth	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Fifteenth	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Totals	278	428	418	476	446	421	502	423	411	461	411	513	340	518	465

\*First and second districts reported together.

†Number of inspectors increased by act of 1901.

TABLE J.—Non-fatal accidents in and about the mines, 1890 to 1904 inclusive

Districts	1890	1891	1892	1893	1894	1895	1896	1897	1898	1899	1900	1901	1902	1903	1904
First, .....	241	*215	115	96	98	121	134	125	136	116	118	113	60	70	52
Second, .....	174	.....	181	173	141	192	161	149	154	159	152	186	109	80	60
Third, .....	268	189	163	178	148	167	209	145	201	203	189	173	115	85	84
Fourth, .....	131	168	180	221	227	221	225	269	278	188	244	322	184	117	71
Fifth, .....	97	115	110	90	95	102	91	114	72	86	76	89	35	104	66
Sixth, .....	121	83	130	139	94	85	99	73	72	99	130	144	66	81	78
Seventh, .....	36	155	101	119	76	114	106	119	112	90	91	95	83	124	116
Eighth, .....	.....	62	53	41	49	106	140	112	119	86	107	116	64	119	78
Ninth, .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	177	89
Tenth, .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	167	86
Eleventh, .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	86	50
Twelfth, .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	88	47
Thirteenth, .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	106	122
Fourteenth, .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	61	54
Fifteenth, .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	30
Totals, .....	1,011	997	1,023	1,039	919	1,108	1,165	1,106	1,134	1,030	1,057	1,243	641	1,325	1,047

\*First and Second districts reported together.

†Number of inspectors increased by act of 1901.

TABLE K.—Production of coal in tons of 2,000 pounds, number of tons produced per employe inside, quantity of explosives used, and the number of tons of coal produced per each pound of explosive used, 1892 to 1904 inclusive

Years	Total production of coal in tons of 2,000 pounds	Average number of tons of coal produced per employe inside	Number of pounds of black powder used	Number of pounds of dynamite used	Average number of tons of coal produced per pound of explosive used
1892, .....	51,226,977	621	30,981,875	1,092,190	1.59
1893, .....	52,841,110	611	31,723,771	1,324,142	1.60
1894, .....	56,162,921	580	30,755,450	1,713,235	1.57
1895, .....	56,948,756	638	32,766,775	1,797,491	1.65
1896, .....	53,843,249	568	32,117,950	1,753,370	1.59
1897, .....	52,581,006	549	31,804,950	2,415,670	1.54
1898, .....	52,802,594	579	30,670,100	2,025,015	1.57
1899, .....	60,518,331	656	34,317,275	2,649,417	1.59
1900, .....	57,393,396	609	34,224,500	2,454,641	1.67
1901, .....	67,194,665	682	38,029,100	4,155,685	1.59
1902, .....	41,300,935	420	21,123,675	2,130,965	*1.77
1903, .....	75,292,585	737	42,529,400	5,317,422	1.57
1904, .....	73,594,369	667	44,779,800	6,519,312	1.43

The ton of 2,000 pounds is used so that a comparison can be made with the bituminous production per pound of powder used.

\*The increase in production per pound of powder used was caused by the production of the washeries during the strike.

†This decrease in production per employe inside was caused by the small number of days worked on account of the strike.

‡The increase in production per employe was due to the large production of the washeries.

TABLE L.—Number of employes in and about the mines, by districts, 1890 to 1904 inclusive

Districts	1890	1891	1892	1893	1894	1895	1896	1897	1898	1899	1900	1901	1902	1903	1904
First	23,759	*23,891	14,121	15,631	16,014	16,272	17,604	18,466	17,890	17,143	17,287	18,722	18,400	10,396	11,184
Second	15,759	.....	14,453	14,491	15,473	16,269	16,323	16,378	15,725	15,419	16,787	18,023	18,224	9,422	10,440
Third	18,947	17,354	15,020	15,782	16,965	17,412	17,557	17,326	18,668	17,176	18,600	17,654	18,197	9,109	9,720
Fourth	14,421	19,411	21,181	22,790	23,162	24,669	26,055	25,450	23,377	23,608	23,067	24,317	24,761	10,438	11,335
Fifth	19,289	14,901	16,277	17,540	18,361	18,467	17,986	17,119	11,649	14,293	15,111	16,108	14,362	11,524	12,697
Sixth	18,257	19,472	20,414	21,974	20,109	19,810	20,979	21,056	20,139	19,905	20,278	20,277	20,858	10,288	11,332
Seventh	9,507	18,415	18,437	19,179	19,121	19,339	20,195	19,070	19,557	20,338	20,655	18,844	19,856	12,070	12,527
Eighth	.....	9,804	10,417	10,679	10,734	11,466	13,235	13,492	12,965	12,682	12,041	12,655	13,383	11,433	12,254
Ninth	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	11,626	15,302
Tenth	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	8,870	9,728
Eleventh	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	7,821	8,128
Twelfth	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	7,153	8,293
Thirteenth	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	14,531	8,894
Fourteenth	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	14,550	14,315
Fifteenth	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	4,376	4,305
Totals	119,919	123,368	130,390	138,069	139,929	143,705	150,088	149,557	142,420	140,604	143,824	147,651	148,139	151,827	161,330

\*First and Second districts reported together.

†Number of inspectors was increased by the act of 1901.

TABLE M.—Number of employes in and about the mines, by counties, 1890 to 1904 inclusive

Counties	1890	1891	1892	1893	1894	1895	1896	1897	1898	1899	1900	1901	1902	1903	1904
Carbon,	3,410	3,312	3,518	4,410	5,391	4,252	4,352	4,748	3,983	2,963	4,212	4,305	3,515	4,051	4,467
Columbia,	2,515	2,707	2,435	2,653	2,624	2,627	2,781	1,977	2,426	2,362	2,062	2,299	2,279	2,246	2,192
Dauphin,	2,293	2,135	2,104	2,094	2,062	1,975	1,988	2,672	2,171	2,380	2,577	2,758	1,945	2,140	2,113
Lackawanna,	25,262	25,406	27,555	29,040	30,475	31,416	32,771	33,892	32,132	30,886	23,811	34,788	35,333	37,470	40,675
Luzerne,	43,314	45,530	48,369	51,395	53,097	55,885	56,955	55,138	51,820	50,806	53,015	53,290	52,703	55,639	59,136
Northumberland,	12,124	12,516	12,835	13,498	13,517	13,889	14,445	14,583	13,833	14,697	15,105	14,187	14,863	14,789	14,945
Schuylkill,	20,221	30,243	31,894	33,697	31,751	32,124	35,295	35,586	34,528	33,492	33,259	33,407	34,950	33,443	35,979
Sullivan,	237	229	261	397	.....	312	334	327	521	465	521	434	752	648	665
Susquehanna,	644	822	999	1,045	1,012	1,095	1,186	1,234	1,168	1,210	1,250	1,409	1,386	1,367	1,392
Wayne,	.....	18	.....	.....	.....	.....	.....	.....	.....	466	11	589	.....	253	305
Totals,	115,519	123,308	130,260	138,069	139,839	142,705	150,088	146,357	142,429	140,604	143,824	147,651	148,139	151,827	161,330



TABLE N.—Production of coal in tons by districts, 1890 to 1904 inclusive

Districts	1890	1891	1892	1893	1894	1895	1896	1897
First, .....	8,822,235	*9,961,356	5,854,639	6,202,131	5,907,331	6,510,817	6,217,447	6,249,833
Second, .....	3,223,057	.....	6,013,138	5,826,475	5,674,530	6,189,495	5,806,669	5,985,630
Third, .....	6,777,703	6,125,095	5,634,730	5,629,915	5,541,522	6,214,854	5,714,329	5,875,823
Fourth, .....	7,776,563	7,632,698	7,343,969	8,065,789	7,162,961	8,066,539	8,017,852	7,457,418
Fifth, .....	6,311,895	6,836,544	6,827,768	6,233,005	6,324,627	6,580,906	5,872,427	6,487,560
Sixth, .....	4,453,632	6,409,050	6,284,468	6,133,867	6,334,571	6,104,836	6,321,310	6,413,339
Seventh, .....	2,579,160	5,302,050	5,464,678	5,583,893	5,434,823	5,334,442	5,774,841	5,708,338
Eighth, .....	.....	3,631,067	2,606,092	3,143,765	3,341,315	3,425,013	4,293,847	4,306,222
Ninth, .....	.....	.....	.....	.....	.....	.....	.....	.....
Tenth, .....	.....	.....	.....	.....	.....	.....	.....	.....
Eleventh, .....	.....	.....	.....	.....	.....	.....	.....	.....
Twelfth, .....	.....	.....	.....	.....	.....	.....	.....	.....
Thirteenth, .....	.....	.....	.....	.....	.....	.....	.....	.....
Fourteenth, .....	.....	.....	.....	.....	.....	.....	.....	.....
Fifteenth, .....	.....	.....	.....	.....	.....	.....	.....	.....
Totals, .....	40,106,327	44,376,180	45,733,373	47,179,563	45,506,179	50,847,104	48,674,330	46,047,354

\*First and Second Districts reported together.

TABLE N.—Continued

Districts	1898	1899	1900	1901	1902	1903	1904
First	6,515,700	7,374,571	6,398,941	7,798,274	4,432,821	4,704,293	4,406,355
Second	5,496,140	6,774,458	6,429,112	8,674,006	6,622,755	4,292,323	4,678,191
Third	5,964,467	6,824,711	6,296,912	6,925,508	5,777,192	4,611,534	4,287,254
Fourth	7,806,274	8,668,132	8,486,741	9,891,332	6,606,429	5,411,844	5,294,252
Fifth	5,435,850	6,111,027	6,176,754	6,374,939	3,106,765	4,701,133	4,486,735
Sixth	6,312,165	7,078,404	7,026,371	8,089,112	4,306,827	4,376,379	4,334,296
Seventh	6,674,834	7,298,294	6,679,791	7,632,828	3,368,439	4,526,174	5,298,579
Eighth	4,558,031	5,393,267	4,274,328	5,112,735	3,225,387	6,334,967	6,178,037
Ninth	.....	.....	.....	.....	.....	46,358,127	6,571,969
Tenth	.....	.....	.....	.....	.....	2,686,600	4,679,197
Eleventh	.....	.....	.....	.....	.....	2,578,269	3,812,367
Twelfth	.....	.....	.....	.....	.....	3,498,266	3,561,676
Thirteenth	.....	.....	.....	.....	.....	3,476,312	3,606,179
Fourteenth	.....	.....	.....	.....	.....	4,257,394	4,325,578
Fifteenth	.....	.....	.....	.....	.....	4,862,250	4,674,112
Totals	47,145,174	54,024,224	51,917,318	59,495,951	39,911,349	67,171,151	65,709,278

†Number of inspectors was increased by the act of 1901.

TABLE P.—Production of coal in tons, by counties, 1890 to 1904 inclusive

Counties	1890	1891	1892	1893	1894	1895	1896	1897
Carbon, .....	1,266,541	1,191,158	1,447,543	1,510,389	1,589,395	1,577,146	1,488,550	1,327,225
Columbia, .....	589,404	701,559	889,490	741,991	510,587	453,042	413,230	481,453
Dauphin, .....	977,490	633,569	638,879	640,723	699,607	712,846	702,335	662,842
Lackawanna, .....	9,374,359	10,184,348	11,110,554	11,667,509	11,170,382	11,859,382	11,638,479	11,946,871
Lehigh, .....	15,825,074	17,726,460	15,348,648	18,253,145	17,243,928	19,143,101	17,964,909	17,141,809
Northumberland, .....	3,608,917	3,672,813	3,724,234	3,731,465	3,893,660	4,472,144	4,117,569	3,774,667
Schuylkill, .....	3,008,917	3,072,813	3,074,093	3,072,086	3,985,072	11,491,388	11,002,772	10,971,943
Sullivan, .....	63,716	9,728,584	9,728,584	9,728,584	9,728,584	9,728,584	9,728,584	9,728,584
Susquehanna, .....	315,359	369,713	457,622	571,936	413,578	332,141	451,733	461,046
Wayne, .....	.....	3,450	.....	.....	413,578	340,504	474,637	476,488
<b>Totals, .....</b>	<b>40,166,327</b>	<b>44,376,180</b>	<b>45,738,373</b>	<b>47,179,563</b>	<b>45,506,179</b>	<b>50,847,104</b>	<b>48,074,330</b>	<b>46,947,354</b>

TABLE P.—Continued

Counties	1888	1889	1900	1901	1902	1903	1904
Adams, .....	1,415,288	1,630,355	1,663,901	1,679,332	1,807,127	1,910,682	2,012,064
Alameda, .....	561,175	895,001	875,613	1,080,231	658,991	1,208,843	1,028,336
Albany, .....	677,460	729,157	695,655	741,582	377,983	654,437	645,906
Albany, .....	11,589,091	13,248,949	12,282,198	15,400,040	10,381,401	17,898,331	16,971,066
Albany, .....	17,793,773	19,899,742	19,179,553	21,306,312	13,046,036	21,891,394	24,735,864
Albany, .....	3,519,305	4,330,547	4,188,313	4,840,099	2,823,273	4,927,304	4,935,578
Albany, .....	10,980,704	12,296,938	11,606,109	13,640,166	7,898,306	14,623,487	14,410,520
Albany, .....	147,375	163,555	200,322	135,105	306,194	262,002	262,772
Albany, .....	422,539	624,125	596,332	668,487	714,576	714,576	618,250
Albany, .....	.....	573,955	19,529	329,877	.....	61,513	68,172
Totals, .....	47,145,171	54,034,221	51,517,318	59,903,951	38,911,549	67,171,951	65,709,258

TABLE Q.—Fatal accidents per each 1,000 employes in and about the mines and tons of coal mined for each fatal accident, 1870 to 1904 inclusive

Years	Employes	Fatal accidents	Fatal accidents per 1,000 employes	Number of tons of coal mined	Number of tons of coal mined for each fatal accident
1870, .....	35,600	241	5.93	12,653,575	59,970
1871, .....	37,488	210	5.60	13,868,087	66,039
1872, .....	44,745	166	3.71	13,899,976	83,735
1873, .....	48,199	234	4.65	18,751,358	83,711
1874, .....	53,402	231	4.33	17,794,857	77,034
1875, .....	69,466	238	3.40	20,895,220	87,795
1876, .....	79,474	228	3.24	20,929,166	86,013
1877, .....	66,842	194	2.90	22,077,869	111,803
1878, .....	63,464	187	2.92	18,661,577	99,795
1879, .....	68,847	262	3.81	27,711,250	105,768
1880, .....	73,773	202	2.75	24,977,261	123,650
1881, .....	76,031	273	3.59	30,537,998	111,861
1882, .....	82,200	291	3.54	31,301,277	107,165
1883, .....	81,421	323	3.53	23,703,008	104,344
1884, .....	101,073	332	3.28	32,561,373	98,076
1885, .....	106,524	332	3.31	34,135,583	102,818
1886, .....	113,644	279	2.71	34,777,618	124,651
1887, .....	106,517	316	2.97	37,644,018	119,127
1888, .....	122,218	361	2.98	41,638,426	114,391
1889, .....	119,664	397	3.32	38,973,950	98,171
1890, .....	119,319	378	3.15	40,166,327	106,260
1891, .....	123,348	428	3.47	44,376,180	103,683
1892, .....	130,303	418	3.21	45,738,373	109,422
1893, .....	138,069	456	3.30	47,179,563	103,464
1894, .....	139,929	446	3.19	45,506,179	102,032
1895, .....	143,795	421	2.93	50,847,104	120,777
1896, .....	150,088	572	3.81	48,074,330	95,766
1897, .....	149,557	423	2.83	46,947,354	110,987
1898, .....	142,420	411	2.89	47,145,174	114,708
1899, .....	140,604	461	3.28	54,034,224	117,211
1900, .....	143,824	411	2.86	51,217,318	124,616
1901, .....	147,651	513	3.47	59,905,951	116,775
1902, .....	148,139	500	3.03	36,911,549	123,038
1903, .....	151,827	518	3.41	67,171,951	129,675
1904, .....	161,330	595	3.69	65,709,258	110,436





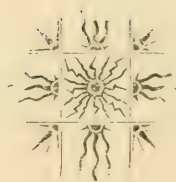
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# ANTHRACITE DISTRICTS

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# First Anthracite District

LACKAWANNA AND SUSQUEHANNA COUNTIES

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Scranton, Pa., February 27, 1905.

Hon. James E. Roderick, Chief of Department of Mines:

Sir: I have the honor to transmit herewith my Annual Report for the First Anthracite Inspection District, for the year ending December 31, 1904.

Respectfully submitted,

L. M. EVANS,  
Inspector.

## SUMMARY OF STATISTICS

Number of collieries, .....	16
Number of mines, .....	35
Number of mines in operation, .....	34
Number of tons of coal shipped to market, .....	4,042,650
Number of tons used at mines for steam and heat, .....	366,314
Number of tons sold to local trade and used by employes, .....	57,391
Number of tons of coal produced, .....	4,466,355
Number of persons employed inside of mines, .....	8,439
Number of persons employed outside, .....	2,745
Number of fatal accidents inside of mines, .....	36
Number of fatal accidents outside, .....	3
Number of non-fatal accidents inside of mines, .....	50
Number of non-fatal accidents outside, .....	2
Number of tons of coal produced per fatal accident inside, .....	124,065
Number of persons employed per fatal accident inside, ..	234
Number of persons employed per fatal accident outside, ..	915
Number of persons employed per non-fatal accident inside, .....	169
Number of persons employed per non-fatal accident outside, .....	1,373
Number of wives made widows by fatal accidents, .....	21
Number of children orphaned by fatal accidents, .....	56
Number of steam locomotives used inside of mines, .....	1
Number of steam locomotives used outside, .....	23
Number of compressed air locomotives used inside, .....	16
Number of compressed air locomotives used outside, ....	13
Number of electric motors used inside, .....	27
Number of fans used for ventilation, .....	31
Number of gaseous mines in operation, .....	12
Number of non-gaseous mines in operation, .....	22
Number of new mines opened, .....	4
Number of old mines abandoned, .....	1



TABLE A

## PRODUCTION OF COAL

Names of Operators	Tons
Scranton Coal Company, .....	1,391,078
Delaware and Hudson Company, .....	1,087,414
Delaware, Lackawanna and Western Railroad Company, .....	742,124
Hillside Coal and Iron Company, .....	715,627
Temple Iron Company, .....	412,965
North End Coal Company, .....	117,147
Total, .....	4,466,355

## Production by Counties

Lackawanna, .....	3,848,105
Susquehanna, .....	618,250
Total, .....	4,466,355

TABLE B.—Fatal and non-fatal accidents inside and outside of mines; number of tons of coal produced per accident; number of persons employed; number employed per accident

Names of Operators	Fatal Accidents			Non-Fatal Accidents			Tons of coal produced per fatal accident inside	Tons of coal produced per non-fatal accident inside	Number of employees inside	Number of employees outside	Total number of employees	Number of employees inside per fatal accident	Number of employees outside per fatal accident	Number of employees inside per non-fatal accident	Number of employees outside per non-fatal accident
	Inside	Outside	Total	Inside	Outside	Total									
Scranton Coal Co., .....	12	.....	12	12	.....	12	115,923	138,725	2,741	1,490	3,831	28	.....	282	.....
Delaware and Hudson Co., .....	4	1	5	5	1	6	271,854	129,854	1,985	665	2,650	496	665	221	665
Delaware, Lackawanna and Western R. R. Co., .....	.....	.....	.....	.....	.....	.....	106,618	71,212	1,552	267	1,579	179	.....	125	.....
Hillside Coal and Iron Co., .....	1	.....	1	1	1	2	102,222	102,222	1,216	374	1,690	138	187	18	.....
Temple Iron Co., .....	4	2	6	4	.....	4	102,210	21,767	821	245	1,666	212	.....	105	.....
North End Coal Co., .....	2	.....	2	2	.....	2	58,574	29,287	294	44	328	117	.....	74	.....
Totals and averages for district, .....	36	3	39	39	2	52	124,065	89,327	8,429	2,745	11,184	224	915	169	1,373





TABLE E.—Occupations of persons killed or fatally injured inside and outside of mines

	Inside										Outside										Grand total
	Mine foremen	Assistant mine foremen	Fire bosses and assistants	Miners	Miners' helpers	Drivers and runners	Boat-boys and helpers	Pumpmen	Company men	All other employees	Total inside	Superintendents	Foremen	Blacksmiths and carpenters	Engineers and firemen	State pickers (boys)	State pickers (men)	Book-keepers and clerks	All other employees	Total outside	
January, .....			1	1	1	1				1	5	1							1	1	11
February, .....		1		1							1										2
March, .....				1							1										2
April, .....				2	2	1	1				4										4
May, .....				1							1										1
June, .....				1							1										1
July, .....				1							1										1
August, .....				1	1		1				2										3
September, .....				1	1						2										3
October, .....				1		1	1				3										4
November, .....				1	1	1			1		4										4
December, .....																					
Totals, .....	1	1	14	11	3	5	1	1	1	1	36					2			1	3	39



TABLE F.—Occupations of persons injured inside and outside of mines

	Inside										Outside										Grand total
	Mine foremen	Assistant mine foremen	Pipe bosses and assistants	Miners	Miners' laborers	Drivers and runners	Door-boys and helpers	Pumpmen	Company men	All other employees	Total inside	Superintendents	Foremen	Blacksmiths and carpenters	Engineers and firemen	State pickers (boys)	State pickers (men)	Book-keepers and clerks	All other employees	Total outside	
January				1	2	1	1			2	5										7
February				1	1	1	1			1	5										6
March				1	1	1	1			1	5										6
April				1	1	1	1			1	5										6
May				1	1	1	1			1	5										6
June				1	1	1	1			1	5										6
July				1	1	1	1			1	5										6
August				1	1	1	1			1	5										6
September				1	1	1	1			1	5										6
October				1	1	1	1			1	5										6
November				1	1	1	1			1	5										6
December				1	1	1	1			1	5										6
Totals				11	9	11	1	1	4	2	39						1		1		42

TABLE G.—Nationality of Persons Killed or Fatally Injured Inside and Outside of Mines.

	American	English	Welsh	Scotch	Irish	German	Polish	Italian	Slavonian	Austrian	Russian	Totals
January, .....			1		1		2	1				5
February, .....			2				2	1				5
March, .....					1							1
April, .....			1	1			2	1				5
May, .....	2	1					1					4
June, .....										1		1
July, .....									1		1	2
August, .....	1	1				1	2			1		6
September, .....			1				2			1		3
October, .....			1				2			1		3
November, .....	1	1	1				2					5
December, .....												
Totals, .....	4	3	6	1	2	1	14	3	1	3	1	39

TABLE H.—Nationality of Persons Injured Inside and Outside of Mines

	American	English	Welsh	Irish	Polish	Hungarian	Slavonian	Lithuanian	Austrian	Russian	Totals
January, .....	2	1		1	2				1		7
February, .....	2	1	2		1						6
March, .....	1	1			2		1				5
April, .....				2	2						4
May, .....		1	1								2
June, .....	1										1
July, .....	3		1		1				1		6
August, .....				1	2						3
September, .....	1	1			1						3
October, .....		1			1	1				1	4
November, .....	2			1	1						4
December, .....	1			1	2			1			5
Totals, .....	15	6	4	6	15	1	1	1	2	1	52

TABLE I.—Operators and mines, kind of openings, type and size of fans, size of fans, volume of air produced by fan or furnace per minute, number of splits of air currents, number of persons employed inside, and quantity of air produced for each person per minute

Names of Operators and Mines	Kind of opening	Gasous or non-gasous	Method of ventilation	Diameter of fan in feet	Width of blades in feet	Length of blades in feet	Number of revolutions per minute	Water gauge developed—in inches	Name of fan	Power used	Number of splits of air currents	Number of cubic feet of air per minute entering the mine at inlet	Total quantity of air per minute circulating in all the splits in cubic feet	Number of cubic feet per minute passing out at outlet	Number of persons employed inside	Average number of cubic feet per minute for each person
<b>Seranton Coal Co.</b>																
Johnson No. 1, .....	Shaft.....	Gasous.	Fan.....	36	10	8	77	1.5	Guibal.	Steam.....	6	177,900	120,900	181,000	425	36
Johnson No. 2, .....	Shaft.....	Non-gas.	Fan.....	18	5	6	116	1.8	Guibal.	Steam.....	4	21,350	76,925	106,000	250	219
Raymond No. 1, .....	Shaft.....	Non-gas.	Fan.....	18	3	5	121	1.5	Guibal.	Gasous.	2	64,780	31,891	57,765	229	250
Raymond No. 2, .....	Shaft.....	Non-gas.	Fan.....	16	3	5	121	1.5	Guibal.	Gasous.	2	26,535	31,891	57,765	229	250
Ontario colliery, .....	Shaft.....	Non-gas.	Fan.....	20	6	7	121	1.5	Guibal.	Steam.....	2	41,220	61,110	76,000	276	258
Ontario colliery, Sturges shaft, .....	Tunnel.....	Non-gas.	Fan.....	13	3	5	116	1.5	Guibal.	Steam.....	2	87,790	22,666	56,769	146	258
Ontario colliery, Ontario tunnel, .....	Tunnel.....	Non-gas.	Fan.....	13	3	5	116	1.5	Guibal.	Steam.....	2	22,400	24,150	34,550	107	258
Ontario colliery, Klondyke tunnel, .....	Tunnel.....	Non-gas.	Centrifugal.....	15	4.5	5	56	5	Guibal.	Steam.....	2	34,000	19,000	34,800	68	279
Ontario colliery, Blue Ridge shaft, .....	Shaft.....	Gasous.	Fan.....	18	4	5	129	3	Guibal.	Steam.....	3	111,320	93,410	125,800	185	337
Richmond No. 3, .....	Shaft.....	Gasous.	Fan.....	23	4	6	75	4	Guibal.	Steam.....	4	60,250	57,495	66,385	180	319
Richmond No. 4, .....	Shaft.....	Non-gas.	Fan.....	11	4	1.5	56	4	Guibal.	Steam.....	1	21,500	17,800	25,200	55	268
<b>Doleware and Hudson Co.</b>																
Coal Brook tunnel, .....	Tunnel.....	Non-gas.	Fan.....	17	4	4.25	45	4	Guibal.	Steam.....	2	30,465	36,745	46,000	101	265
Coal Brook, Mills drift, .....	Tunnel.....	Non-gas.	Fan.....	17	4	4.25	70	1.5	Guibal.	Electric.	2	50,745	54,000	57,405	121	437
Coal Brook, Nos. 5 and 12 drifts, .....	Tunnel.....	Non-gas.	Fan.....	20	5	5.3	88	1.7	Guibal.	Steam.....	4	48,640	42,770	57,370	147	257
Coal Brook, No. 7 drift, .....	Tunnel.....	Non-gas.	Fan.....	17	4	4.25	79	1.7	Guibal.	Electric.	3	46,470	42,000	48,180	214	261
Coal Brook, No. 15 drift, .....	Tunnel.....	Non-gas.	Fan.....	20	5	5.3	82	1.5	Guibal.	Electric.	1	21,200	21,000	26,000	27	891
Leggett's Creek No. 1, .....	Shaft.....	Gasous.	Fan.....	20	5	6	61	2.5	Guibal.	Steam.....	1	61,300	45,200	65,100	31	886
Leggett's Creek No. 2, .....	Shaft.....	Gasous.	Fan.....	20	5	6	42	2.5	Guibal.	Steam.....	1	205,600	230,500	317,700	208	208
Leggett's Creek No. 3, .....	Shaft.....	Gasous.	Fan.....	22	5	6	75	1.5	Guibal.	Steam.....	2	136,400	137,400	180,500	253	259
Marvane shaft, .....	Slope.....	Gasous.	Fan.....	30	6	7	62	2.4	Guibal.	Steam.....	3	136,400	138,600	180,500	253	259
Marvane slope, .....	Slope.....	Gasous.	Fan.....	29	6	7	62	1.4	Guibal.	Steam.....	4	201,500	226,710	296,710	223	262



TABLE 1.—Operators, location of collieries, railroads, etc.

Names of Operators and Collieries	County	Name of General Superintendent	Post Office	Name of Superintendent	Post Office	Railroad to Mine
Scranton Coal Co. Johnson, ..... Raymond, ..... O'Brien, ..... Riverside, ..... Richmond No. 3, ..... Richmond No. 4, ..... Raymond washery,	Lackawanna, ..	Wm. L. Allen, ....	Peckville, .....	John K. Berkheiser, John K. Berkheiser, John Vonbergen, .. John K. Berkheiser, John K. Berkheiser, John Aitken, .....	Olyphant, ..... Olyphant, ..... Scranton, ..... Olyphant, ..... Olyphant, ..... Priceburg, .....	N. Y., O. and W.
Delaware and Hudson Co. Coal Brook, ..... Leggett's Creek, ..... Marvine, .....	Lackawanna, ..	C. C. Rose, .....	Scranton, .....	E. W. Scharar, .... Finley Ross, .....	Scranton, ..... Scranton, ..... Scranton, .....	
D. L. and W. R. R. Co. Storrs, .....	Lackawanna, ..	R. A. Phillips, ...	Scranton, .....	Walter Reese, .....	Scranton, .....	
Hillside Coal and Iron Co. Forest City, ..... Clifford, ..... Glenwood, .....	Susquehanna, .. Susquehanna, .. Lackawanna, ..	V. L. Petersen, ... V. L. Petersen, ... V. L. Petersen, ...	Scranton, ..... Scranton, ..... Scranton, .....	S. J. Jennings, .... S. J. Jennings, .... J. F. Gallagher, ....	Forest City, .... Forest City, .... Mayfield, .....	
Temple Iron Co. Lackawanna, ..... North West, .....	Lackawanna, ..	F. H. Hemelright, .. F. H. Hemelright, ..	Jermyn, ..... Jermyn, .....	Joseph Reese, ..... John W. White, .....	Olyphant, ..... Carbondale, ....	
North End Coal Co. North End, .....	Lackawanna, ..	Edward Roderick, ..	Scranton, .....	.....	.....	
						N. Y., O. and W.



TABLE 2.—Number of tons of coal mined, number of persons employed, number killed and injured, quantity of powder and dynamite used, etc.

Names of Operators and Collieries	County	Number of tons of coal shipped to market	Number of tons used at collieries for steam and heat	Number of tons sold to local trade and used by employes	Total production of coal in tons	Number of days worked. (Totals are averages. Not including washeries)	Number of employees	Number of fatal accidents	Number of non-fatal accidents	Number of kegs of powder used	Number of pounds of dynamite used	Number of horses and mules
Swarthout Coal Co. Johnson, ..... Raymond, ..... Ontario, ..... Richmond No. 3, ..... Riverside, ..... Richmond No. 4, .....	Lackawanna,	370,266	40,000	5,010	415,276	198	1,081	2	2	14,200	16,550	95
		270,834	17,690	10,539	298,473	186	756	2	1	8,125	8,350	55
		195,555	30,000	2,103	227,658	210	975	5	2	11,785	64,500	88
		125,277	7,000	1,585	133,862	213	516	...	1	5,925	4,300	47
		56,614	16,425	556	73,595	194	304	1	1	4,352	4,312	26
		36,165	4,380	347	40,892	181	146	3	1	1,135	...	18
Raymond washery, .....	Lackawanna,	1,055,011	114,805	20,140	1,189,956	197	3,778	12	7	45,512	98,012	329
		194,563	3,776	2,783	201,122	200	53	...	...	...	...	...
		1,249,574	118,581	22,923	1,391,078	197	3,831	12	7	45,512	98,012	329
Totals, .....												
Delaware and Hudson Co. Coal Brook, ..... Leggett's Creek, ..... Marvine, .....	Lackawanna,	498,315	17,600	...	465,515	243	1,075	2	1	14,282	8,833	77
		282,104	17,792	5,435	365,421	244	835	1	2	17,284	14,738	54
		235,949	26,814	3,315	266,078	253	740	2	7	10,068	4,562	61
		956,458	122,296	8,570	1,087,414	217	2,650	5	10	41,614	28,133	192
Totals, .....												
Delaware, Lackawanna and Western Railroad Co. Storrs, .....	Lackawanna,	698,697	38,355	5,072	742,124	242	1,559	7	11	80,653	9,967	84

TABLE 2.—Continued

Names of Operators and Collieries	County	Number of tons of coal shipped to market	Number of tons used at collieries for steam and heat	Number of tons sold to local trade and used by employes	Total production of coal in tons	Number of days worked. (Totals are averages. Not including washeries)	Number of employes	Number of fatal accidents	Number of non-fatal accidents	Number of kegs of powder used	Number of pounds of dynamite used	Number of horses and mules
Hillside Coal and Iron Co.												
Forest City, .....	Susquehanna, .....	285,531	17,955	8,117	311,603	198	941	8	6	19,454	12,617	65
Clifford, .....	Susquehanna, .....	201,539	11,776	322	306,647	219	451	.....	1	5,993	7,599	50
Glenwood, .....	Lackawanna, .....	76,500	20,877	.....	97,377	139	298	1	.....	2,768	2,767	24
Totals, .....	.....	653,580	53,608	8,439	715,627	179	1,690	9	7	30,170	22,743	139
Temple Iron Co.												
Lackawanna, .....	Lackawanna, .....	197,351	13,392	6,900	217,763	189	639	2	11	10,381	12,886	71
North West, .....	Lackawanna, .....	184,509	11,002	710	195,292	179	457	1	2	6,422	10,135	77
Totals, .....	.....	380,861	24,414	7,610	412,965	189	1,096	4	13	16,803	24,021	148
North End Coal Co.												
North End, .....	Lackawanna, .....	102,496	9,179	4,597	117,147	170	358	2	4	4,475	3,399	29
Grand totals, .....	.....	4,642,620	396,314	57,391	4,495,355	.....	11,184	39	52	168,327	180,376	912

\*Coal mined at Forest City prepared at Clifford.

TABLE 2.—Recapitulation

Name of operator	County	Number of tons of coal shipped to market	Number of tons used at collieries for steam and heat	Number of tons sold to local trade and used by employees	Total production of coal in tons	Average number of days worked (Not including washeries)	Number of employees	Number of fatal accidents	Number of non-fatal accidents	Number of kegs of powder used	Number of pounds of dynamite used	Number of horses and mules
Sheridan Coal Co., .....	Lackawanna	1,247,574	118,581	22,923	1,391,078	157	3,831	12	7	45,712	98,012	229
Delaware and Hudson Co., .....	Lackawanna	956,458	122,296	8,773	1,087,414	247	2,170	3	10	41,414	28,135	152
Delaware, Lackawanna and Western R. R. Co., .....	Lackawanna	698,697	38,375	5,672	742,124	242	1,553	1	11	29,623	9,967	84
Hillsdale Coal and Iron Co., .....	Susq. & Lack.	653,580	22,698	8,453	715,627	179	1,693	7	17	20,170	22,743	139
Temple Iron Co., .....	Lackawanna	380,851	24,414	7,770	412,965	189	1,096	13	13	16,566	24,621	148
North End Coal Co., .....	Lackawanna	163,490	9,150	4,507	117,147	176	378	4	4	4,675	3,500	26
Totals, .....		4,042,650	366,514	57,391	4,466,345	292	11,181	39	52	168,327	186,376	912

TABLE 2.—Continued

Names of Operators	County	Number of Boilers				Locomotives			Total horse power	Number of steam engines of all classes	Total horse power	Number of pumps delivering water to surface	Capacity in gallons per minute	Quantity delivered to surface per minute—gallons	Number of electric dynamos	Number of air compressors
		Cylindrical	Horse power	Tubular	Horse power	Total horse power	Steam	Air	Electric							
Seranton Coal Co., .....	Lackawanna,	45	1,026	45	4,775	5,795	11	.....	6	105	7,197	21	15,070	10,657	5	4
Delaware and Hudson Co., .....	Lackawanna,	75	6,139	27	5,650	11,789	4	29	.....	111	12,669	8	12,060	8,170	1	11
Delaware, Lackawanna and Western R. R., .....	Lackawanna,															
Hillside Coal and Iron Co., .....	Lackawanna,	12	540	12	1,611	2,151	3	.....	10	27	2,410	2	2,169	1,150	3	.....
Temple Iron Co., .....	Susq. & Lehigh,	3	150	2	3,139	3,289	3	.....	9	32	3,170	17	7,940	6,150	1	.....
North End Coal Co., .....	Lackawanna,	3	150	5	1,900	2,140	3	.....	2	22	1,711	9	10,300	4,600	1	2
Totals, .....	Lackawanna,	139	7,840	135	17,433	25,476	21	29	27	502	27,373	58	47,900	31,507	13	17

TABLE 3.—Number of each class of employees inside and outside of mines

Names of Operators and Collieries	County	Inside										Outside										Grand total inside and outside
		Mine foremen	Assistant mine foremen	Pit bosses and assistants	Miners	Miners' helpers	Drivers and runners	Boor boys and helpers	Pumpmen	Company men	All other employees	Total inside	Superintendents	Foremen	Blacksmiths and carpenters	Engineers and firemen	State pickers (days)	State pickers (men)	Book-keepers and clerks	All other employees	Total outside	
Scranton Coal Co.																						
Johnson	Lackawanna.	1	1	1	180	205	112	36	15	.....	72	788	1	1	15	30	53	62	2	129	293	1,081
Raymond		1	1	1	224	248	41	22	4	.....	27	569	1	1	8	26	58	24	2	67	187	756
Ontario		1	1	1	367	562	78	10	8	.....	67	677	1	1	1	12	63	60	2	135	298	975
Richmond No. 3		1	1	1	35	120	80	14	3	.....	83	399	1	1	9	22	27	20	1	36	117	516
Riverside		1	1	1	15	38	24	7	5	.....	16	208	.....	.....	1	14	50	4	1	20	96	304
Richmond No. 4		1	1	1	30	40	11	.....	2	.....	16	190	.....	.....	3	17	6	17	.....	12	46	146
Raymond washery.	Lackawanna.	8	7	9	1,031	653	346	89	37	.....	281	2,741	4	1	53	122	257	187	8	399	1,037	3,778
Totals.		8	7	9	1,031	932	346	89	37	.....	281	2,741	5	8	56	127	267	187	8	432	1,060	3,831
Delaware and Hudson Co.																						
Coal Brook.	Lackawanna.	1	4	.....	260	284	78	24	.....	51	57	759	.....	1	15	21	125	34	1	119	316	1,075
Leggett's Creek.		2	7	229	229	39	19	7	82	14	628	.....	.....	1	9	36	55	.....	3	103	207	835
Marvine.		2	7	162	162	101	35	8	121	.....	598	1	2	7	19	23	33	2	55	142	740	
Totals.		3	4	14	671	675	218	78	15	254	71	1,985	1	4	31	76	203	67	6	277	665	2,650
D. L. and W. R. R. Co.																						
Storrs.	Lackawanna.	1	2	10	468	460	111	24	7	154	72	1,252	.....	2	10	27	97	19	2	150	307	1,559

TABLE 3. - Continued

Names of Operators and Collieries	County	Inside										Outside										Grand total inside and outside
		Mine foremen	Assistant mine foremen	Fire bosses and assistants	Miners	Miners' laborers	Drifters and runners	Poor boys and helpers	Pumpmen	Company men	All other employes	Total inside	Superintendents	Foremen	Blacksmiths and carpenters	Engineers and firemen	State pickers (boys)	State pickers (men)	Book-keepers and clerks	All other employes	Total outside	
Hillside Coal and Iron Co., Forest City, .....	Susquehanna,	3	1	...	279	299	66	26	5	86	29	785	1	1	15	20	19	34	2	64	156	941
Clifford, .....	Susquehanna,	1	...	...	112	112	61	8	3	20	...	317	...	1	5	8	16	25	2	77	134	451
Glenwood, .....	Lackawanna,	1	...	...	71	90	25	4	6	7	10	214	...	1	4	10	7	20	...	42	84	298
Totals, .....		5	1	...	462	501	152	38	14	113	39	1,316	1	3	24	38	42	79	4	183	374	1,690
Temple Iron Co., Lackawanna, .....	Lackawanna,	2	1	1	158	161	62	16	8	52	17	478	...	1	9	13	51	13	2	72	161	639
North West, .....	Lackawanna,	2	1	...	122	138	47	8	5	40	10	373	...	1	6	9	17	11	3	37	84	457
Totals, .....		4	2	1	280	299	109	24	13	92	27	851	...	2	15	22	68	24	5	109	245	1,096
North End Coal Co., North End, .....	Lackawanna,	1	1	1	102	103	26	3	2	48	7	294	1	1	4	7	13	12	1	25	64	358
Grand totals, .....		27	17	35	2,934	2,971	962	256	88	661	488	8,439	5	20	140	297	690	288	26	1,176	2,745	11,184



TABLE 3.—Recapitulation

Names of Operators	County	Inside										Outside										Grand total inside and outside
		Mine foremen	Assistant mine foremen	Fire bosses and assistants	Miners	Miners' laborers	Drivers and runners	Door boys and helpers	Pumpmen	(Company men	All other employes	Total inside	Superintendents	Foremen	Blacksmiths and carpenters	Engineers and firemen	Slate pickers (boys)	Slate pickers (men)	Book-keepers and clerks	All other employes	Total outside	
Scranton Coal Co., .....	Lackawanna,	8	7	9	1,031	933	346	89	37	.....	281	2,741	5	8	56	127	267	187	8	432	1,090	3,831
Delaware and Hudson Co., ..	Lackawanna,	5	4	14	651	675	218	78	15	254	71	1,985	1	4	51	76	203	67	6	277	665	2,650
Delaware, Lackawanna, and Western R. R. Co., .....	Lackawanna,	4	2	10	408	460	111	24	7	154	72	1,252	....	3	10	27	97	19	2	150	307	1,559
Hillside Coal and Iron Co., ...	Susq. & Lack.	3	1	...	462	501	152	38	14	113	30	1,316	1	3	24	38	42	79	4	183	374	1,690
Temple Iron Co., .....	Lackawanna,	4	2	1	280	299	109	24	13	92	27	831	....	2	15	22	68	24	5	109	245	1,096
North End Coal Co., .....	Lackawanna,	1	1	1	102	103	26	3	2	48	7	294	1	1	4	7	13	12	1	25	64	358
Totals, .....	.....	27	17	35	2,934	2,971	982	256	88	661	488	8,439	8	20	110	297	690	388	26	1,176	2,715	11,184



TABLE 4.—Fatal accidents inside and outside of mines

Date of accident	Name of Person	Nationality	Occupation	Age	Married or single	Number of widows	Number of orphans	Name of Mine	County	Nature and Cause of Accident in Brief
Jan.	9 Daniel Lewis, .....	Welsh, .....	Motorman, .....	18	S.	...	...	Forest City, ....	Susquehanna.	{ Through the misunderstanding of orders between the dispatchers and one of the motormen, both of whom were killed, and other killing both motormen and injuring two other workmen.
9	Andrew Killhullen, .....	Irish, .....	Runner, .....	29	M.	1	2	Forest City, ....	Susquehanna.	
11	Seb Faroso, .....	Italian, .....	Miner, .....	30	M.	1	3	Ontario, .....	Lackawanna.	
28	Stanley Valoney, .....	Polish, .....	Slate picker, .....	23	S.	...	...	Forest City, ....	Susquehanna.	{ By fall of rock while loading a car. He had been warned by the foreman to secure it.
28	Thomas Starrinski, .....	Polish, .....	Slate picker, .....	15	S.	...	...	Forest City, ....	Susquehanna.	
Feb.	6 Evan Gabriel, .....	Welsh, .....	Fireboss, ...	58	M.	1	...	Storrs, .....	Lackawanna.	{ By explosion of gas. Gabriel in making his morning examination discovered a squeeze in progress, and after passing the men into other sections of the mine, he started to make a second examination in company with Jones and another miner. Gabriel and Jones were in the lead and were using naked lights; when they had proceeded a short distance inside the door they lit a large body of gas. Gabriel was instantly killed. Jones died within a few days, and the other men were injured.
6	William A. Jones, .....	Welsh, .....	Miner, ...	50	M.	1	...	Storrs, .....	Lackawanna.	
6	George Norwich, .....	Polish, .....	Miner, .....	35	M.	1	1	Raymond, .....	Lackawanna.	

After firing a blast Norwich went back to work out some loose coal without examining the roof, when a bench of coal fell, fracturing his skull. He died the next day.

TABLE 4. -Continued

Date of accident	Name of Person	Nationality	Occupation	Age	Married or single	Number of widows	Number of orphans	Name of Mine	County	Nature and Cause of Accident in Brief
Feb. 6	Julius Roginski, .....	Polish, .....	Laborer, ....	32	S. ....			Forest City, ....	Susquehanna, ..	Roginski was waiting at the chamber branch for a blast to go off that he had assisted in preparing, when a blast in another chamber went off, and he thinking it was in his own chamber walked into the face and was killed by the blast he had helped prepare.
23	Dominic Tolerick, .....	Italian, ....	Laborer, ....	21	S. ....			Coal Brook, ....	Lackawanna, ..	Tolerick went into a coal pocket to start some frozen fire coal when a rush started and smothered him. Accident outside.
March 11	Patrick McNeally, .....	Irish, .....	Miner, .....	31	M. 1			Marvine, .....	Lackawanna, ..	While firing a blast McNeally went into the face and fell down all loose pieces. A piece fell on him, causing injuries from which he died on his way home.
April 4	John Livingston, .....	Scotch, ....	Doortender, ..	55	M. 1			Johnson No. 1, ...	Lackawanna, ..	An empty car after passing through Livingston's door became derailed and discharged two props. He went in to examine when the roof fell on him, causing injuries from which he died the next day.
11	August Stoffinell, .....	Italian, ....	Miner, .....	22	S. ....			Ontario, .....	Lackawanna, ..	In trying to send a squib through a blasting tube it reacted and exploded a keg of powder, burning Stoffinell so seriously that he died on the 14th.
14	Paul Bradis, .....	Polish, ....	Doortender, ..	16	S. ....			Ontario, .....	Lackawanna, ..	Bradis had been sleeping at his door. When a trip was five feet away he attempted to open it but was killed in the effort.
16	Jacob Koshick, .....	Polish, ....	Miner, .....	27	S. ....			Lackawanna, ...	Lackawanna, ..	Koshick was killed while replacing a prop that was disengaged by a blast.
17	Wm. Jermyan, .....	Welsh, ....	Miner, .....	36	M. 1			Leggett's Creek, ...	Lackawanna, ..	Jermyan sprained himself while lifting rock and died within three days.

July	4	James O'Mally, .....	American, ..	Driver, ....	17	S. ....	North End, .....	Lackawanna, ..	McCully was running away from a slope runaway and went in the wrong gangway up against a closed door and was killed instantly.
	7	Joseph McDonald, .....	American, ..	Laborer, ...	19	S. ....	Coal Brook, .....	Lackawanna, ..	McDonald broke his leg by slipping on a hospital where he contracted some bowel trouble from which he died on the 21st.
	9	James King, .....	English, ...	Doortender, ..	66	S. ....	Marvne, .....	Lackawanna, ..	King attempted to open his door from a runaway truck and failed to get out of the way and received injuries from which he died.
	28	Frank Dobrinski, .....	Polish, ....	Laborer, ..	21	S. ....	Storrs, .....	Lackawanna, ..	Dobrinski slipped in his effort to mount a moving motor, causing internal injuries from which he died.
June	16	Paul Molesneick, .....	Austrian, ...	Laborer, ...	28	M. 1	Forest City, ....	Susquehanna, ..	Molesneick's miner after firing a blast went in and examined the roof and thought it was safe; he then went home, leaving his laborers alone on the night shift. The roof fell and killed Molesneick.
July	1	Michael Bonta, .....	Slavonian, ..	Laborer, ...	27	M. 1	Raymond, .....	Lackawanna, ..	Killed by fall of roof while loading a car. The miner had his place apparently well propped and went out leaving his laborer alone, when he was killed.
	14	John Ostroski, .....	Russian, ....	Miner, ....	40	M. 1	Glenwood, .....	Lackawanna, ..	After failing to ignite a blast the second time he attempted to force a candle into it, hole with a sledge when he discharged it he was killed.
Aug.	8	John White, .....	American, ..	Doorboy, ..	16	S. ....	Ontario, .....	Lackawanna, ..	Killed by falling off the bumpers of a car. Was crushed so that he died two days afterward.
	8	Chas. Zilenski, .....	Polish, ....	Laborer, ...	28	S. ....	North West, ....	Lackawanna, ..	The mine-foreman ordered him to blast down a piece of bone, but he attempted to bar it down with a drill. It fell on him fracturing his spine from which he died November 4.
	19	Aaron Walker, .....	English, ....	Miner, ....	56	M. 1	Riverside, .....	Lackawanna, ..	While preparing powder a spark from his lamp exploded a keg, and burned him so that he died at the hospital.
	27	Andrew Malefor, .....	Polish, ....	Laborer, ...	17	S. ....	Ontario, .....	Lackawanna, ..	Killed by fall of roof where it was apparently well propped. It contained a seam that was difficult to detect.
	27	Andrew Imro, .....	Austrian, ...	Laborer, ...	29	M. 1	Forest City, ....	Susquehanna, ..	While tamping the powder he was using loose powder that fell on his drill exposing the charge, causing a premature blast, killing the laborer and seriously injuring the miner.
	29	John Bogdanski, .....	German, ....	Miner, ....	57	M. 1	North End, .....	Lackawanna, ..	After firing a blast he went into examine the result when a piece of coal fell on him causing instant death.

TABLE 4.—Continued

Date of accident	Name of Person	Nationality	Occupation	Age	Married or single	Number of widows	Number of orphans	Name of Mine	County	Nature and Cause of Accident in Brief
Sept. 22	Joseph Michael Chuck	Austrian	Laborer	44	M	1	5	North West	Lackawanna	While he and his miner were examining the result of a blast a piece of coal fell on him causing injuries from which he died the next day.
30	Alex Stopper	Polish	Laborer	42	M	1	1	Richmond No. 4	Lackawanna	By fall of roof while he and three other men were working in the place.
Oct. 12	Adam Ehabonski	Polish	Miner	33	M	1	6	Storrs No. 1	Lackawanna	They were working four handed and firing two blasts at the same time. They heard one go off, but were not sure of the other. They decided to go to the face just as the blast went off; killing Woolka and fatally injuring Ehabonski.
13	Albert Woolka	Polish	Miner	38	M	1	5	Storrs No. 1	Lackawanna	Reese was standing at the branch while they were running an empty car out. When passing Reese he caught him and called and told him that he had died.
20	Thomas J. Reese	Welsh	Doorboy	17	S	.....	.....	Storrs No. 3	Lackawanna	Coal was killed by fall of rock on a turnout. The roof contained a thin water seam that was very difficult to detect.
Nov. 2	John Coleman	American	Runner	28	S	.....	.....	Lackawanna	Lackawanna	By fall of roof; he started to work under a roof where a prop was discharged by a blast when it fell, killing him instantly.
3	Julius Sliziek	Polish	Miner	30	M	1	1	Storrs No. 2	Lackawanna	He was tamping a hole when a piece of bone fell on him, causing injuries from which he died.
9	John Gray	English	Miner	65	M	1	.....	Johnson No. 1	Lackawanna	Thomas was engaged on Sunday doing some work on the foot turnout, and for some reason went towards the shaft and that was the last seen of him alive.
20	David H. Thomas	Welsh	Timberman	53	M	1	6	Richmond No. 4	Lackawanna	Some time afterward his body was found in the sump. He was usually engaged to keep the shaft in repair and it is supposed that he in examining some parts of it fell down.



By fall of rock. They had started to drive a crosscut that gave the roof a loose end. The miners were directed to start the crosscut on the other side of the pillar, but they claim the laborers objected, saying that it was easier to start where they did as the pillar was closer to the road.

Forest City, .... Susquehanna.

.....

S.

Laborer, ... 43

.....

Polish, .....

.....

21 Joseph Zilenski, .....

TABLE 5.—Non-fatal accidents inside and outside of mines

Date of accident	Name of Person	Nationality	Occupation	Age	Married or single	Name of Mine	County	Nature and Cause of Accident in Brief
Jan.	8 Earl Golden, .....	American, .....	Brakeman, ....	20	S.	Forest City, .....	Susquehanna, .....	Through a misunderstanding of orders between the dispatcher and a motorman, two trains ran into each other, killing two and seriously injuring Golden and Crawley.
	9 John Crawley, .....	Irish, .....	Brakeman, ....	18	S.	Forest City, .....	Susquehanna, .....	
11	Berti Gabonia, .....	Austrian, .....	Laborer, .....	34	M.	Forest City, .....	Susquehanna, .....	Leg broken by fall of roof while making Face and hands lacerated. He returned to the face too soon to a blast that he thought had missed.
16	Anthony Sezezhokovige, .....	Polish, .....	Miner, .....	31	M.	Lackawanna, .....	Lackawanna, .....	
25	Edward Weaver, .....	American, .....	Tracklayer, ....	27	M.	Storrs No. 1, .....	Lackawanna, .....	Leg broken by rope at foot of plane. He stepped between cars on a turn-out to let another trip pass, when the cars were bumped, breaking his leg.
	26 John Magor, .....	English, .....	Co. laborer, ....	22	S.	Lackawanna, .....	Lackawanna, .....	
28	Stanley Geovmski, ....	Polish, .....	Laborer, .....	27	S.	Johnson No. 1, ....	Lackawanna, .....	By fall of roof. He went into the face too soon after firing, contrary to the orders of his miner. Injured by explosion of fire damp. These men accompanied Gabriel, a fire boss, and Jones, a miner, on the fire boss's second examination into a section where a squeeze had occurred in the morning all using naked lights; they ignited a body of gas. Gabriel and Jones were killed.
Feb.	6 James Weber, .....	Welsh, .....	Miner, .....	29	M.	Storrs No. 1, .....	Lackawanna, .....	
	6 Edgar Weber, .....	Welsh, .....	Miner, .....	32	M.	Storrs No. 1, .....	Lackawanna, .....	
	6 Albert Stimm, .....	English, .....	Miner, .....	36	M.	Storrs No. 1, .....	Lackawanna, .....	
13	Arthur Morris, .....	American, .....	Runner, .....	19	S.	Lackawanna, .....	Lackawanna, .....	He was following a car when it became derailed at a branch and broke his leg. By fall of rock while working in the face of the chamber. His leg and two ribs were broken.
22	David Smith, .....	American, .....	Miner, .....	52	M.	Marvine, .....	Lackawanna, .....	
26	Mike Shargy, .....	Polish, .....	Miner, .....	43	M.	Ontario, .....	Lackawanna, .....	By fall of roof while working out loose coal after a blast. He received serious internal injuries. A piece of rock rebounded from a blast, fracturing his skull.
March	William Reddick, .....	English, .....	Miner, .....	4	M.	North West, .....	Lackawanna, .....	

14	Robert J Williams, ...	American, ....	Miner, ....	26	S.	Marvine, .....	Lackawanna,	By blasting. He returned to the face after hearing a blast go off in another chamber that he thought was his own. Was seriously injured.
14	Joseph Polesnach, ....	Slavonian, ....	Laborer, ....	24	S.	Forest City, .....	Susquehanna, ..	While assisting his miner to replace a prop a piece of rock fell, breaking his ankle.
14	Joseph Eukizla, ....	Polish, ....	Miner, ....	35	M.	Marvine, .....	Lackawanna, ..	By explosion of powder. One eye was blown out, and a rib and two fingers broken.
24	Anthony Petrick, ....	Polish, ....	Driver, ....	17	S.	Lackawanna, .....	Lackawanna, ..	He stumbled while leading a mule and was bumped by a car. His collar bone was broken.
April	2 George Melfski, ....	Polish, ....	Miner, ....	45	M.	Raymond, .....	Lackawanna, ..	A passing trip became detached by a broken coupling. He stepped on the track and was struck by the following train, breaking his leg.
12	Earlly Morrison, ....	Irish, ....	Tracklayer, ....	45	S.	North End, .....	Lackawanna, ..	He stepped into the face of a gangway to see if there was room for a long rail, while the timbermen were securing it, when a piece of coal fell breaking his leg.
25	Frank Percaski, ....	Polish, ....	Miner, ....	24	M.	North West, ....	Lackawanna, ..	He failed to bar down a piece of rock and started to work under it when it fell severely injuring his back and head.
26	Peter Foy, ....	Irish, ....	Miner, ....	34	M.	Marvine, .....	Lackawanna, ..	By lighting a squib with his lamp he lit a blower, causing a premature blast. His arm was broken.
May	11 George Wyatt, ....	English, ....	Miner, ....	48	M.	Richmond No. 3, ..	Lackawanna, ..	He failed to get far enough out of the way of a blast in time and was shot, dislocating hip.
24	Arthur L. Davies, ....	Welsh, ....	Pumpman, ....	28	M.	Lackawanna, ....	Lackawanna, ..	Went into abandoned works with a naked light to see progress of pump on water. He ignited body of fine and was burned about the face and hands.
June	3 James Keirman, ....	American, ....	Motorman, ....	28	S.	Storrs No. 1, ....	Lackawanna, ..	He failed to keep his foot out of the way and broke it by bumping into a water car.
July	11 Joseph Swetter, ....	Austrian, ....	Miner, ....	38	M.	Clifford, .....	Lackawanna, ..	By pulling down roof after firing, a piece of coal fell breaking his leg.
12	William Thomas, ....	Welsh, ....	Timberman, ...	41	M.	Leggett's Creek, ..	Lackawanna, ..	He discharged a prop with his foot by sitting down. A piece of roof fell breaking his leg.
16	John Murray, ....	American, ....	Driver, ....	17	S.	Lackawanna, ....	Lackawanna, ..	Riding on the bumper the spreader caught in the rail, and the car broke his leg.
21	Patrick O'Mally, ....	American, ....	Miner, ....	45	M.	North End, ....	Lackawanna, ..	Leg broken by fall of coal while examining his place.
23	John Chichura, ....	Pole, ....	Miner, ....	45	M.	Lackawanna, ....	Lackawanna, ..	Rib broken by fall of coal while mining out a blast.
25	Thomas Mullen, ....	American, ....	Motorman, ....	19	S.	Storrs No. 1, ....	Lackawanna, ..	He failed to get far enough out of a tunnel where they were engaged hauling water before the contractors started to work.
25	Frank Steeler, ....	American, ....	Brakeman, ....	20	S.	Storrs No. 1, ....	Lackawanna, ..	He failed to get far enough out of the way of a blast in time and was shot, dislocating hip.
30	Reese Davies, ....	American, ....	Driver, ....	18	S.	Johnson No. 1, ....	Lackawanna, ..	Spine severely injured by fall of roof.

TABLE 5.—Continued

Date of accident	Name of Person	Nationality	Occupation	Age	Married or single	Name of Mine	County	Nature and Cause of Accident in Brief
Aug. 12	Antony Sokol, .....	Polish, .....	Laborer, .....	35	M.	Storrs No. 1, .....	Lackawanna, ..	Struck by a piece of rock from a blast, fracturing his skull. He refused to heed the orders of his miner to step into a cross-cut.
27	Hugh Curren, .....	Irish, .....	Miner, .....	45	M.	Forest City, .....	Susquehanna, ..	Hand injured by premature blast while coupling a derrick. He used atlas and loose black iron shackles. His laborer, Andrew Imro, was killed. Curren's hand had to be amputated.
30	August Guscavage, .....	Polish, .....	Laborer, .....	23	S.	North End, .....	Lackawanna, ..	A piece of roof fell on him breaking his ankle. He was barring down roof after his miner had gone out.
Sept. 6	D. D. Smith, .....	American, .....	Ashman, .....	20	S.	Marvine, .....	Lackawanna, ..	The engineer gave a sudden start when Smith was going to unhitch the car; it derailed the car, injuring his arm and leg. Accident outside.
10	Joseph Pannonofski, .....	Polish, .....	Laborer, .....	29	S.	Forest City, .....	Susquehanna, ..	A fall of roof broke his leg while he was loading a car.
20	William Hancock, .....	English, .....	Slate picker, .....	14	S.	Storrs, .....	Lackawanna, ..	The door of a coal pocket was left open, and in running across the trestle at noon he fell in. Received several body lacerations.
Oct. 25	Michael Dushick, .....	Russian, .....	Miner, .....	32	M.	Lackawanna, .....	Lackawanna, ..	A piece of boney fell on him, dislocating his arm.
27	Wm. Wriginton, .....	English, .....	Driver, .....	18	S.	Ontario, .....	Lackawanna, ..	He was waiting for a car to pass. It became derailed and broke his legs.
28	Andrew Samalic, .....	Hungarian, .....	Miner, .....	42	M.	Riverside, .....	Lackawanna, ..	By fall of roof. He received lacerations of the body.
30	Antoni Zannie, .....	Polish, .....	Miner, .....	40	M.	Storrs No. 3, .....	Lackawanna, ..	He failed to get away from a blast. His skull was fractured.
Nov. 1	Andrew Barrett, .....	American, .....	Motorman, .....	23	M.	Marvine, .....	Lackawanna, ..	Broke his leg while coupling cars to the motor.
16	Michael Murphy, .....	Irish, .....	Laborer, .....	32	S.	Coal Brook, .....	Lackawanna, ..	A piece of bone fell breaking his leg.
28	Keneth White, .....	American, .....	Driver, .....	17	S.	Lackawanna, .....	Lackawanna, ..	While playing he bumped his leg against a car and broke it.

29	John Wok, .....	Polish, .....	Miner, .....	39	M.	Lackawanna, .....	Lackawanna, ..	While barring down roof it rolled over and broke his leg.
7	William Codabish, .....	Polish, .....	Laborer, .....	21	S.	Storrs No. 3, .....	Lackawanna, ..	By fall of roof, his leg was broken.
12	Thomas Malid, .....	American, .....	Footman, .....	25	S.	Legitt's Creek, ..	Lackawanna, ..	By cars. He was holding back on cars at the foot, when the cage in coming down it tipped the car up. In coming down it caught Malid's leg, breaking it.
19	John Kopatka, .....	Polish, .....	Driver, .....	18	S.	Lackawanna, .....	Lackawanna, ..	His foot slipped on the rail, and the car bumped his leg breaking it.
21	John Sherpinski, .....	Lithuanian, .....	Laborer, .....	32	M.	Marvine, .....	Lackawanna, ..	Leg broken by fall of rock.
21	Anthony McGarry, .....	Irish, .....	Co. laborer, ....	50	S.	North End, .....	Lackawanna, ..	Leg broken by being jammed between cars. He was holding rock and was told a car was coming, but he did not understand in which direction.



### Condition of Collieries

The mines in this district are in a safe condition. As to ventilation and drainage, I report the following:

#### Scranton Coal Company

Johnson No. 1.—Dunmore vein gives off some gas, and for this reason the ventilation is good. Diamond vein is practically a non-gaseous seam; the ventilation is fair, but was being improved on my last inspection.

Johnson No. 2.—This is a non-gaseous mine. A large portion of it is dependent upon natural ventilation, and for this reason the ventilation is bad for a few days at a time, particularly when the weather changes. The officials have done everything in their power to improve this condition. By placing doors on all chambers they have greatly improved the conditions.

Raymond.—The mining at this colliery consists principally in taking down what is called "top coal" in abandoned chambers, and while it would be impracticable to establish a systematic arrangement of air currents on account of the openness of the workings, the men are well provided with pure air. This is due to the unusual thickness of the vein at this locality, and the arranging of small groups of men at different places throughout the mine.

The haulage and drainage at this colliery are in excellent condition. Much attention is paid to maintaining room along tracks, and keeping the roads surfaced with ashes.

Ontario.—The veins at this colliery are very thin. The ventilation is good. The connecting of Jermyn No. 6 and Klondyke workings, has improved the ventilation, haulage and drainage considerably.

On account of the thinness and irregularity of these veins, it requires tact and good judgment to successfully mine them, and their condition is the best endorsement of the management.

Richmond No. 3.—This colliery has seen a complete reformation during the year. The ventilation has been very much improved, the roads cleaned, with ample room for the handling of cars, and the colliery throughout is in a very satisfactory condition.

Riverside.—Mining in the lower vein at this colliery is not very extensive, but one of the upper veins is being developed.

Richmond No. 4.—Operations at this colliery are not in any way extensive, but the ventilation is good.

#### Delaware and Hudson Company

Coal Brook Colliery.—On December 1, a mine fire was discovered under the culm bank in the workings of the Coal Brook tunnel that had been abandoned some forty years ago.



From indications it must have been burning some time, but was not discovered until snow was seen to melt on the surface over the affected territory, when an examination inside revealed the presence of the fire.

Operations were commenced to extinguish it, and a short slope was sunk from the surface to a point near the fire, which opening was to be used as a base of operations to fight the fire.

In the meanwhile work was in progress conducting an air current to the fire, and when the ventilation was within a short distance of the fire, it moved a quantity of after-damp that it was thought would get to the Coal Brook fan, but instead went to the live workings and in to the men. Some consternation followed, and had it not been that the workings were well ventilated, serious consequences might have followed.

Fuller examinations were made, which showed that the maps made some forty years ago, were very incomplete, and were not to be relied on. The conditions were made more complicated by the fact that another vein only four feet above had been partially mined out; whereupon it was decided to make an accurate survey, so that the true conditions might be known.

At first it was decided to get into the upper vein, and allow the water to play on the fire, but when an idea of the extensiveness of the fire was formed, this plan was abandoned. The idea of flooding was discussed, but on examination it was found that on account of the caved condition of the workings, this would not be practicable.

It was then decided to mine around the base of the fire, and to fill this place with some non-conducting material.

A small fan was installed at one of the surface openings, so that it might ventilate the fire affected territory, and also protect the men from any danger that might arise. They are still fighting this fire.

The ventilation and drainage at this colliery are in good condition; five separate fans are provided, and furnish ample ventilation for these extensive workings, and the haulage is also in good condition.

At Marvine and Legitt's Creek, the ventilation is in good condition. The returns at these mines receive a great deal of attention. Both of these mines give off considerable gas, and it is absolutely necessary to provide the best of ventilation.

#### DELAWARE, LACKAWANNA AND WESTERN RAILROAD COMPANY

Storrs Colliery.—This is a very extensive colliery, being one of the greatest producers in the region, and throughout is in good

condition; while great attention is paid to production, equal attention is given to ventilation, and no expense or labor is spared in providing adequate ventilation and a healthy atmosphere for the employes.

On February 6, an explosion of fire-damp caused a mine fire in the Diamond vein workings of No 1 Shaft. Evan Gabriel, the Fire Boss, had noticed a squeeze in this vein, and held the men at the Fire Boss station until he made the second examination. On the second examination he invited William Jones, James and Edgar Weber and Albert Simms, to accompany him, all using naked lights. They walked up the rock plane, and had proceeded a short distance inside of a door when an explosion occurred, killing Gabriel, and injuring Jones so that he died in a few days.

The explosion set fire to the timbers, but it was impossible to reach it on account of the after-damp. They immediately set to work to conduct the air to the fire, and at the same time preparations were made to get a supply of hose and water.

The first day of the fire was extremely dangerous, as the true condition of the Big vein was not known, and also the danger of an accumulation of a large body of gas coming back to the fire and causing a second explosion.

Qualified men were sent in different sections, to examine and report conditions, when it was found to be safe to proceed and extinguish the fire which proved to be very extensive, but which was put out without any serious accident, owing largely to the skilful manner in which the work was conducted.

#### HILLSIDE COAL AND IRON COMPANY

Forest City Colliery.—The ventilation in the solid workings of this colliery is good, and has been much improved recently by placing doors in the chambers.

Robbing of pillars is an important part of the work at this colliery, and in some places it is decidedly difficult to maintain ventilation such as there is provided in the solid workings, but it is the best that can be expected.

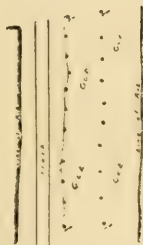
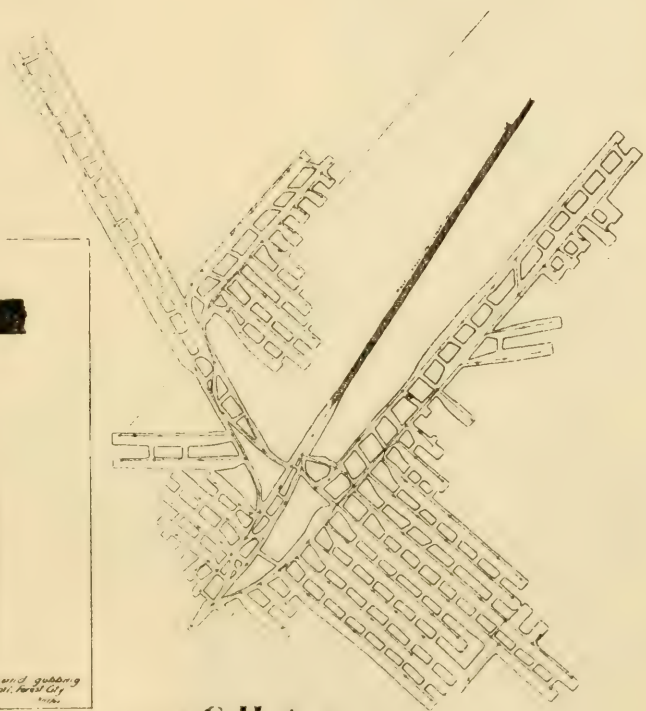
The success attending the robbing of pillars at this mine deserves more than passing notice, and for this reason, a plan of a certain portion of the workings and also showing their method of working them, is attached hereto.

Ninety-eight per cent. of the coal is taken out, and the output from one of the workings is wholly dependent upon robbing.

No delays are occasioned by caves, turning the road, building cogs, moving gobs, and several other delays that occur when robbing a territory of workings that have been unsystematically mined; the output at this place goes right ahead the same as though working in the solid.

'WARREN'

LOT



Method of marking chambers and guiding  
cable in Dunmore No. 2 Shaft, Forest City  
Eng. Co. N. Y. C. Scale 1" = 100'

No. 2 SHAFT.

FOREST CITY, PA.

**DUNMORE VEIN**

*Hillside Coal & Iron Co.*

*By J. H. Hillside*

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WATER LOT

WATER LOT

WATER LOT

WATER LOT



When these mines were opened, the robbing of pillars was one of the important considerations, and with this in view a system of mining was adopted which has been strictly adhered to. An engineer was kept at the mines, to put up all chamber lines, and see to it that they were driven accordingly.

All chamber roads, gobs and props, conform strictly with the engineer's lines, the road being on one side, and the general success attending the mining at this colliery, is the best evidence of the successful methods there in vogue.

While the robbing of pillars is such an important part of the work at these mines, it can be said that not a single accident can be attributed to it.

Clifford Colliery.—The ventilation is, and has been, undergoing a thorough overhauling, and will soon be in a satisfactory condition.

Glenwood.—The ventilation is in fair condition; they are robbing pillars in a thick vein, and on this account it is very difficult to maintain systematic ventilation, but the employes do not suffer in any way for the want of air.

#### TEMPLE IRON COMPANY

Lackawanna.—The chambers of this mine are well ventilated, and have been very much improved lately. A new shaft is being sunk, which will improve their haulage and do away with using the main haulages as return, which, under present conditions, would be impossible.

Northwest.—The ventilation is fair; they are robbing pillars in a thick vein, but the men appear to have a full and adequate supply of air.

#### NORTH END COAL COMPANY

North End.—This mine has been under development, and is not sufficiently far advanced to be considered.

### Improvements

#### SCRANTON COAL COMPANY

At the Johnson colliery a 30 foot Guibal fan has been installed as an alternate to the present fan now in use, which fully meets the requirements of this gaseous colliery.

The engine room and fan drift are built of substantial masonry, and the arrangement of operating the doors that turn the air currents to either fan, is very effective and complete.

At Raymond Shaft a 250 horse power locomotive boiler has been set up in addition to the present equipment. This will do away

with the old drift fire room, and be a considerable saving in fuel with improved service.

At Ontario a slope has been sunk from the tunnel level, to take out the pillars and some solid coal from the Ontario tunnel workings.

A Scranton duplex plunger pump 18x8x18 has been installed in the above slope.

The working of the old Jermyn No. 6 has been connected to the Klondyke working by tunnel, which made it possible to abandon the Jermyn No. 6 shaft, and favored the haulage of these two mines so that coal and water are delivered to one surface opening by gravity. This was a great saving to the colliery; it improved the service and was a good move in mining.

On May 7, the tower and fan house of the Blue Ridge opening were destroyed by fire; the effect on production was only temporary, and the buildings were rebuilt as soon as possible.

At Richmond No. 3, a gravity plane 700 feet long, running four cars on each track, was built in the Clark vein, which will deliver coal from a newly acquired tract.

#### DELAWARE AND HUDSON COMPANY

At Coal Brook colliery, a rope haulage 6,300 feet long, has been installed, delivering coal to surface from Coal Brook tunnel. It is an up to date haulage; great care was exercised in the alignment, and there is ample room along the track everywhere.

An electric plant of 450 Kilowatt capacity has been installed at this same colliery, furnishing light for the Company's Carbondale railroad yard, lighting the coal taken outside, and furnishing power for three fans where it was quite impracticable to use steam as a power.

The engine room is a substantial brick building with a concrete floor. The equipment and building present a substantial appearance.

#### DELAWARE, LACKAWANNA AND WESTERN RAILROAD COMPANY

At the Storrs colliery, the wooden towers at Shafts Nos. 1, 2 and 3, have been replaced by substantial steel towers.

A rock slope 300 feet long has been sunk, to connect the Big and New County veins in No. 1 shaft.

The 25 pound rail track on nearly all main headings, has been re-laid with heavier rails, using the lighter rails in the chambers where motors with reel attachments haul cars.

In relaying tracks, great care was taken to modify grades and curves, also to provide more room along tracks.

The improved haulage and equipment at this colliery, is in a condition second to none in the region.

#### HILLSIDE COAL AND IRON COMPANY

At Forest City colliery a 7x12 inch Quintuplex Electric plunger pump, equipped with a C. C. 90 H. P. motor, the pump having a capacity of 600 gallons per minute against a head of 450 feet, has been installed in the Red Ash vein at No. 2 shaft.

An additional  $7\frac{1}{2}$  ton electric motor, with cable reel attachment, has been added to the Red Ash vein; also a  $7\frac{1}{2}$  ton with cable and reel attachments, added to the equipment of the Clark vein.

Also at Forest City (outside) a very modern supply house, 35x50x18, has been constructed, with a fire-proof addition 18x21x18, used for an oil house.

The interior arrangement—equipment for handling oil by the use of pumps, manner of storing supplies, and method of keeping a record of the same—is indeed of great value to the colliery, and reflects credit on its designers.

At Clifford colliery a steam plane, 900 feet in length, area 7x12, has been driven up the west rise.

At Glenwood colliery a new cold air blast for the boiler plant, with fan and engine, has been installed, and a new 6" steam line from Glenwood boiler room to the pump shaft, a distance of 3,000 feet, has been erected, which will allow the shutting down of the boiler plant at the pump shaft the greater part of the year, when the pumping is not excessively heavy.

#### TEMPLE IRON COMPANY

At Northwest colliery a plane 417 feet long has been driven from the Clark to the New County vein.

#### Remarks

A review of the operations in this district for the year 1904, shows an unsatisfactory condition regarding accidents.

The high percentage of accidents caused by falls of roof, is no exception to records of former years. The attention of those interested, has been repeatedly called to the irregularities that cause this class of accidents, but a reduction can never be looked for until the employees see that it is better to observe and obey the law concerning the examination and securing of the roof of their working places than it is to disregard it.

There were 36 fatal accidents, 17 of the victims were English speaking persons, and 19 foreign speaking. From this it will be seen that the increase in the number of accidents in the mines is not wholly due to the "foreigner," as is very often asserted.

However, mine laws have been printed in the various languages and distributed to these employes during the year, which ought to have a tendency to reduce accidents among the foreign element.

Some of the companies are encouraging their superintendents and foremen to hold meetings at stated times for the purpose of reading and discussing papers pertaining to this important industry. This is a wise movement, and a great deal of good may be expected to result from it to both employer and employe. It will meet a long felt want in the coal region.

#### Mine Foremen's Examinations

The annual examination of candidates for certificates as mine foremen and assistant mine foremen was held June 27 to July 10. The following persons were recommended for certificates:

##### Mine Foremen

William Rook, John J. Phillips, Richard R. Thomas, Gwilym Edwards, Thomas F. Kelly, Thomas H. Davies, Patrick W. Fadden, George Barron, Willis Henry Loomis, John L. Kilcullen, Joseph Henry Hoggarth, David L. Thomas, Thomas A. Price.

##### Assistant Mine Foremen

David M. Williams, William Charles, William J. Morgan, James J. Kelly, Evan L. Davis, Alfred Baileys, William L. Jones, Edgar Hartshorn, David R. Jones.

## Second District

LACKAWANNA AND WAYNE COUNTIES

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Carbondale, Pa., February 13, 1905.

Hon. James E. Roderick, Chief of Department of Mines:

Sir: I have the honor to submit herewith my report as Inspector of Mines for the Second Anthracite District for the year ending December 31, 1904.

It contains the usual tables and shows that there were 614,129 tons less coal mined during the year than in 1903. This was due in a great measure to the destruction by fire of three breakers in the district, two of them being the largest producers.

Respectfully submitted,

P. J. MOORE,  
Inspector.



## SUMMARY OF STATISTICS

Number of collieries, .....	20
Number of mines, .....	35
Number of mines in operation, .....	35
Number of tons of coal shipped to market, .....	3,316,398
Number of tons used at mines for steam and heat, .....	284,277
Number of tons sold to local trade and used by employes, .....	37,519
Number of tons of coal produced, .....	3,638,194
Number of persons employed inside of mines, .....	7,847
Number of persons employed outside, .....	2,593
Number of fatal accidents inside of mines, .....	22
Number of fatal accidents outside, .....	6
Number of non-fatal accidents inside of mines, .....	54
Number of non-fatal accidents outside, .....	6
Number of tons of coal produced per fatal accident inside, .....	165,372
Number of persons employed per fatal accident inside, .....	357
Number of persons employed per fatal accident outside, .....	432
Number of persons employed per non-fatal accident inside, .....	145
Number of persons employed per non-fatal accident outside, .....	432
Number of wives made widows by fatal accidents, .....	16
Number of children orphaned by fatal accidents, .....	37
Number of steam locomotives used inside of mines, .....	6
Number of steam locomotives used outside, .....	18
Number of compressed air locomotives used inside, .....	6
Number of electric motors used inside, .....	5
Number of fans used for ventilation, .....	29
Number of gaseous mines in operation, .....	7
Number of non-gaseous mines in operation, .....	28
Number of new mines opened, .....	1
Number of old mines abandoned, .....	4



## TABLE A

## PRODUCTION OF COAL

Names of Operators	Tons
Delaware and Hudson Coal Company, .....	1,692,261
Pennsylvania Coal Company, .....	458,729
Sterrick Creek Coal Company, .....	333,251
Dolph Coal Company, Limited, .....	281,289
Price-Pancoast Coal Company, .....	215,183
Hillside Coal and Iron Company, .....	177,195
Moosic Mountain Coal Company, .....	141,377
Mt. Jessup Coal Company, .....	132,573
Edgerton Coal Company, .....	103,659
Carney and Brown Coal Company, .....	53,395
Black Diamond Coal Company, .....	42,282
Finn Coal Company, .....	7,000
Total, .....	3,638,194

## Production by Counties

Lackawanna, .....	3,570,022
Wayne, .....	68,172
Total, .....	3,638,194

TABLE B.—Fatal and non-fatal accidents inside and outside of mines; number of tons of coal produced per accident; number of persons employed; number employed per accident

Names of Operators	Fatal Accidents		Non-Fatal Accidents		Tons of coal produced per fatal accident inside	Tons of coal produced per non-fatal accident inside	Number of employees inside	Number of employees outside	Total number of employees	Number of employees inside per fatal accident	Number of employees outside per fatal accident	Number of employees inside per non-fatal accident	Number of employees outside per non-fatal accident
	Fatal Accidents		Non-Fatal Accidents										
	Inside	Outside	Inside	Outside									
Delaware and Hudson Co., .....	4	..	4	14	..	14	130,876	3,880	1,142	5,022	970	277	133
Pennsylvania Coal Co., .....	2	..	2	6	1	7	229,365	916	266	1,182	458	183	133
Sterrick Creek Coal Co., .....	2	..	2	3	..	5	166,626	631	208	839	316	126	..
Dolph Coal Co., Limited, .....	2	1	3	5	..	5	140,645	393	229	622	197	79	..
Price-Pancoast Coal Co., .....	1	1	2	1	1	2	56,258	717	281	998	717	381	281
Hillside Coal and Iron Co., .....	1	..	1	7	..	7	215,183	427	126	553	427	61	..
Moosic Mountain Coal Co., .....	1	..	1	1	1	1	177,195	209	28	237	209	23	..
Mt. Jessup Coal Co., .....	5	2	7	13	2	15	25,314	257	121	378	51	61	..
Edgerton Coal Co., .....	..	..	..	..	..	..	10,198	114	68	182	..	..	..
Carney and Brown Coal Co., .....	..	..	..	1	1	1	53,395	80	36	116	..	80	68
Black Diamond Coal Co., .....	4	..	4	1	..	1	42,232	106	54	160	27	106	..
Flinn Coal Co., .....	..	..	..	1	..	1	7,000	117	34	151	..	117	..
Totals and averages for district, .....	22	6	28	54	6	60	67,874	7,847	2,593	10,440	357	432	482

TABLE C.—Classification of fatal accidents inside and outside of mines

	Inside										Outside						Grand total							
	By Falls of			By Falling Into							Total inside													
	Coal	Slate	Roof	By mine cars	By explosion of gas	Smothered by gas	By powder and dynamite	By blasts, etc.	Shafts	Slopes	Manways, breasts, etc.	Crushed at batteries	By mules	Suffocated by coal, etc.	Miscellaneous causes	Total inside		By cars	By machinery	By suffocation	By boiler explosions	Miscellaneous causes	Total outside	
January, .....			3														4						1	4
February, .....			4	2			1										1	1					1	4
March, .....																								1
April, .....																								1
May, .....																								1
June, .....	1		2	1													2					1	2	4
July, .....			1					1									1						1	2
August, .....			1														1	1					1	3
September, .....																	1						1	1
October, .....					1				1								1						1	2
November, .....	1		1																					1
December, .....				3	1		1	1																3
Totals, .....	2		12	3	1		1	1	1							1	23	3						23

TABLE D.—Classification of non-fatal accidents inside and outside of mines

	Inside										Outside										Grand total				
	By Falls of			By mine cars	By explosion of gas	Smothered by gas	By powder and dynamite	By blasts, etc.	By Falling Into			Crushed at batteries	By mules	Suffocated by coal, etc.	Miscellaneous causes	Total inside	By cars	By machinery	By suffocation	By boiler explosions		Miscellaneous causes	Total outside		
	Coal	State	Roof																						
January				1				2							1	4	1	1				1	1	1	3
February			1															1	1				1	1	3
March																		1	1				1	1	3
April																		1	1				1	1	3
May																		1	1				1	1	3
June	1																	1	1				1	1	3
July																		1	1				1	1	3
August																		1	1				1	1	3
September																		1	1				1	1	3
October																		1	1				1	1	3
November	1																	1	1				1	1	3
December																		1	1				1	1	3
Totals	2		16		11		6	4		9		6						1	54	1			1	5	61



TABLE F.—Occupations of persons injured inside and outside of mines

	Inside										Outside										Grand total	
	Mine foremen	Assistant mine foremen	Fire bosses and assistants	Miners	Miners' laborers	Drivers and runners	Door-boys and helpers	Pumpmen	Company men	All other employes	Total inside	Superintendents	Foremen	Blacksmiths and carpenters	Engineers and firemen	Slate pickers (boys)	Slate pickers (men)	Book-keepers and clerks	All other employes	Total outside		
January.....				1	2	1	1		1	1	4									1	1	5
February.....				1		1	1		1	1	4									1	1	2
March.....				1		1	1		1	1	4									1	1	2
April.....				1		1	1		1	1	4									1	1	2
May.....				1	1	1	1		1	1	6									1	1	8
June.....	1			1	1	1	1		1	1	6									1	1	8
July.....				1	1	1	1		1	1	6									1	1	8
August.....				1	1	1	1		1	1	6									1	1	8
September.....				1	1	1	1		1	1	6									1	1	8
October.....				1	1	1	1		1	1	6									1	1	8
November.....				1	1	1	1		1	1	6									1	1	8
December.....				1	1	1	1		1	1	6									1	1	8
Totals.....	1			26	13	9	1	—	4	4	54					1	1		5	6	60	



TABLE G.—Nationality of Persons Killed or Fatally Injured Inside and Outside of Mines

	American	English	Irish	German	Polish	Hungarian	Italian	Slavonian	Austrian	Russian	Totals
January, .....	1				1				1		3
February, .....	1	1			2						4
March, .....	1				1			1		1	3
April, .....											1
May, .....	1		1		2						4
June, .....	1						1				2
July, .....	1		1								2
August, .....	1		1		2	1				1	5
September, .....				1				1			2
October, .....	1				1						2
November, .....					1						1
December, .....					1						1
Totals, .....	6	1	2	1	9	1	1	2	1	2	25

TABLE H.—Nationality of Persons Injured Inside and Outside of Mines

	American	English	Welsh	Irish	German	Polish	Hungarian	Italian	Slavonian	Lithuanian	Austrian	Russian	Totals
January, .....	3						1					1	5
February, .....						1		1	1				3
March, .....			1	1	1	1		1					5
April, .....					2	1							3
May, .....						2		1					3
June, .....	1			1	1						3		7
July, .....	1	1				1		1	1				6
August, .....		1		2		1	1	1	1				8
September, .....						1	5	1					8
October, .....		1		2		1		1	1			1	6
November, .....	2					1		1		1	1		6
December, .....				1				1				1	3
Totals, .....	10	2	1	7	4	9	7	7	5	1	5	2	60

TABLE I.—Operators and mines, kind of openings, type and size of fans, size of furnaces, volume of air produced by fan or furnace per minute, number of splits of air currents, number of persons employed inside, and quantity of air produced for each person per minute

Names of Operators and Miners	Kind of opening	Gaseous or non-gaseous.	Method of ventilation	Diameter of fan in feet	Width of blades in feet	Depth of blades in feet	Number of revolutions per minute	Water gauge developed—inches.	Name of fan	Power used	Number of splits of air currents	Number of cubic feet of air per minute entering the mine at inlet	Total quantity of air per minute circulating in all the splits in cubic feet	Number of cubic feet per minute passing out at outlet	Number of persons employed inside	Average number of cubic feet per minute provided for each person	
Delaware and Hudson Co.																	
Clinton, River slope, .....	Slope, ..	Non-gas.	Fan, .....	17	4	4 1/4	100	1.5	Gubal,	Steam, ..	4	85,088	82,802	85,360	215	301	
Clinton, Dunmore vein, .....	Slope, ..	Non-gas.	Fan, .....	17	4	4 1/4	150	1	Gubal,	Steam, ..	3	69,026	67,734	59,810	150	384	
Clinton, Dunmore vein, .....	Drifts, ..	Non-gas.	Fan, .....	10	2 1/2	2 1/2	140	0.6	Gubal,	Gasoline, ..	1	65,112	58,420	65,206	126	464	
No. 1 Carbondale, .....	Drift, ..	Non-gas.	Fan, .....	10	2 1/2	2 1/2	1.0	0.5	Gubal,	Electricity, ..	1	42,600	35,000	44,000	46	761	
No. 1 Carbondale, .....																	
No. 1 Carbondale, .....	Drift, ..	Non-gas.	Natural, ..	.....	.....	.....	.....	.....	.....	.....	.....	122,650	78,500	136,590	179	441	
No. 1 Carbondale, .....	Slopes, ..	Non-gas.	Natural, ..	.....	.....	.....	.....	.....	.....	.....	.....	42,000	33,400	46,200	97	402	
Powderly, .....	Slope, ..	Non-gas.	Fan, .....	16	4	4	64	0.5	Gubal,	Steam, ..	4	49,800	44,710	54,600	217	296	
Powderly tunnel, .....	Tunnel, ..	Non-gas.	Natural, ..	.....	.....	.....	.....	.....	.....	.....	.....	18,500	14,196	19,680	70	203	
Powderly drift, .....	Drift, ..	Non-gas.	Natural, ..	.....	.....	.....	.....	.....	.....	.....	.....	22,032	19,638	28,220	72	273	
Jermyn, .....	Shaft, ..	Non-gas.	Fan, .....	22	5	5 1/2	65	1 1/2	Gubal,	Steam, ..	1	175,275	104,195	192,155	563	185	
White Oak, .....	Slope, ..	Non-gas.	Fan, .....	20	5	5	45	0.5	Gubal,	Steam, ..	1	26,880	18,240	28,000	55	332	
White Oak, .....	*Drifts, ..	Non-gas.	Natural, ..	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	297		
Grassy Island, .....	*Shaft, ..	Gaseous, ..	Fan, .....	20	5	5	50	0.7	Gubal,	Steam, ..	.....	22,050	18,400	23,400	536	46	
Grassy Island, .....	Slope, ..	Non-gas.	Fan, .....	22	5	5 1/2	80	1	Gubal,	Steam, ..	.....	118,805	124,800	167,195	498	251	
No. 2 Olyphant, .....	Shaft, ..	Gaseous, ..	Fan, .....	20	5	5	80	1.7	Gubal,	Steam, ..	.....	27,895	25,175	35,050	280	90	
Eddy Creek, .....	Shaft, ..	Gaseous, ..	Fan, .....	20	5	5	80	0.5	Gubal,	Steam, ..	.....	26,780	24,200	28,500	280	86	
Eddy Creek, .....	Drifts, ..	Non-gas.	Fan, .....	19	3 1/2	2	60	0.5	Gubal,	Gasoline, ..	.....	52,220	38,490	59,580	281	137	
Eddy Creek, .....	Drifts, ..	Non-gas.	2 fans, ..	19	3 1/2	2	60	0.5	Gubal,	Gasoline, ..	.....	52,220	38,490	59,580	281	137	
Pennsylvania Coal Co.																	
No. 1 shaft, .....	Shaft, ..	Gaseous, ..	Fan, .....	17 1/2	5	4 1/4	88	1	Gubal,	Steam, ..	7	106,350	72,400	108,100	257	262	
No. 2 shaft, .....	Tunnel, ..	Non-gas.	Fan, .....	17 1/2	5	4 1/4	70	0.2	Gubal,	Steam, ..	6	73,330	64,840	78,700	254	276	
No. 2 shaft, .....	shaft & tunnel, ..	Non-gas.	Fan, .....	17 1/2	5	4 1/4	70	0.2	Gubal,	Steam, ..	6	73,330	64,840	78,700	254	276	
Gipsy Grove, .....	Shaft, ..	Non-gas.	Fan, .....	17 1/2	5	4 1/4	72	1	Gubal,	Steam, ..	6	94,280	84,740	94,500	265	275	

\*Robbing pillars, title.

Sterrick Creek Coal Co.	Shaft, ..	Non-gas.	Fan, .....	4½	4¾	50	0.8	Guibal.	Steam, ..	3	29,385	17,745	31,480	250	71
Sterrick Creek,	Tunnel, ..	Gaseous,	Fan, .....	7	5 1-6	70	2	Guibal.	Steam, ..	3	53,400	46,600	55,100	331	122
Dolph Coal Co.	Slope, ..	Non-gas.	Fan, .....	6	6	55	1.5	Guibal.	Steam, ..	4	77,330	51,300	77,360	293	175
Hannabel,	Slope, ..	Non-gas.	Fan, .....	5	6	60	1	Guibal.	Steam, ..	4	52,825	47,275	53,195	100	473
Price-Pancoast Coal Co.	Shaft, ..	Gaseous,	Fans, .....	35	9	55	2.2	Guibal.	Steam, ..	14	350,000	330,000	360,000	717	460
Pancoast,	Shaft, ..	Gaseous,	Fans, .....	20	4	90	1.9	Guibal.	Steam, ..						
Hillside Coal and Iron Co.	Shaft, ..	Non-gas.	Fan, .....	19	4¾	75	1	Guibal.	Steam, ..	8	85,730	77,145	99,390	355	217
Erie,	Drifts, ..	Non-gas.	Natural,							2	98,420	88,340	68,000	72	1,227
Keystone,	Drifts, ..	Non-gas.	Natural,												
Moosic Mountain Coal Co.	Drifts, ..	Non-gas.	Fan, .....	12	4	4 1-6	0.3	Guibal.	Steam, ..	2	52,500	15,392	58,000	209	74
Moosic Mountain,	Slope, ..	Gaseous,	Fan, .....	16	6	4½	1.2	Guibal.	Steam, ..	2	50,378	21,980	102,428	257	83
Mt. Jessup Coal Co.	Slope, ..	Non-gas.	Fan, .....	12	3¾	70	1.1	Guibal.	Steam, ..	1	29,600	19,500	24,400	114	171
Edgerton Coal Co.	Slope, ..	Non-gas.	Fan, .....	12	3¾	70	1.1	Guibal.	Steam, ..	1	29,600	19,500	24,400	114	171
Edgerton,	Tunnel, ..	Non-gas.	Natural,	†											
Carney and Brown Coal Co.	Shaft, ..	Non-gas.	Natural,	†										80	.....
Carney and Brown,	Drifts, ..	Non-gas.	Fan, .....	12	4	4	0.3	Guibal.	Steam, ..	2	38,000	25,000	36,000	106	236
Black Diamond Coal Co.	Drifts, ..	Non-gas.	Fan, .....	10	8½	65	0.1	Guibal.	Steam, ..	1	27,500	15,300	25,500	117	131
Black Diamond,	Drift, .....	Non-gas.	Fan, .....												
Finn,	Drift, .....	Non-gas.	Fan, .....												
Finn Coal Co.	Drift, .....	Non-gas.	Fan, .....												

Grabbing pillars

TABLE 1.—Operators, location of collieries, railroads, etc.

Names of Operators and Collieries	County	Name of General Superintendent	Post Office	Name of Superintendent	Post Office	Railroad to Mine
Delaware and Hudson Co.						
Clinton, .....	Lackawanna and Wayne	C. C. Rose, .....	Scranton, .....	.....	.....	Delaware and Hudson
No. 1 Carbondale, .....						
Powderly, .....						
Jermyn, .....						
Whiting, .....						
No. 9 Olyphant, .....	Lackawanna.	C. C. Rose, .....	Scranton, .....	.....	.....	Delaware and Hudson
Edley Creek, .....						
Grassy Island No. 1, .....						
Racket Brook washery, .....						
Grassy Island washery, .....						
Pennsylvania Coal Co.						
No. 1, .....	Lackawanna,	W. W. Inglis, .....	Scranton, .....	.....	.....	Erie
Gipsy Grove, .....	Lackawanna,	W. W. Inglis, .....	Scranton, .....	.....	.....	Erie
Sterrick Creek Coal Co.						
Sterrick Creek, .....	Lackawanna,	F. Hemelright, .....	Jermyn, .....	.....	.....	Delaware and Hudson and Erie
Dolph Coal Co., Ltd.						
Dolph, .....	Lackawanna,	W. G. Robertson, .....	Scranton, .....	.....	.....	Delaware and Hudson and Erie
Price-Pancoast Coal Co.						
Pancoast, .....	Lackawanna,	John R. Bryden, .....	Scranton, .....	.....	.....	Ontario and Western
Pancoast washery, .....	Lackawanna,	John R. Bryden, .....	Scranton, .....	.....	.....	Ontario and Western
Hillside Coal and Iron Co.						
Erie, .....	Lackawanna,	V. L. Peterson, .....	Dunmore, .....	.....	.....	Erie
Keystone, .....	Lackawanna,	V. L. Peterson, .....	Dunmore, .....	.....	.....	Erie
Moosic Mountain Coal Co.						
Moosic Mountain, .....	Lackawanna,	Charles P. Ford, .....	Winton, .....	.....	.....	D., L. and W., and Erie and Ontario and Western
Mt. Jessup Coal Co.						
Mt. Jessup, .....	Lackawanna,	Charles P. Ford, .....	Winton, .....	.....	.....	D., L. and W., and Erie and Ontario and Western
Edgerton Coal Co.						
Edgerton, .....	Lackawanna,	F. Hemelright, .....	Jermyn, .....	.....	.....	D. and H. and Erie

Carney and Brown Coal Co.	Lackawanna.	John Carney.	Dunmore.	Thomas Mullen, ...	Dunmore,	D., L. and W.
Murray.						
Black Diamond Coal Co.	Lackawanna.	W. G. Thomas, ...	West Pittston, ...	G. J. Thomas, ...	Carbondale,	O. and W. and Erie
Black Diamond,						
Finn Coal Co.	Lackawanna.	Wade M. Finn, ...	Seranton.			Ontario and Western
Finn,						

TABLE 2.—Number of tons of coal mined, number of days worked, number of persons employed, number killed and injured, quantity of powder and dynamite used, etc.

Names of Operators and Collieries	County	Number of tons of coal shipped to market	Number of tons used at collieries for steam and heat	Number and used by employees	Total production of coal in tons	Number of days worked (totals are averages, not including washeries)	Number of employees	Number of fatal accidents	Number of non-fatal accidents	Number of kegs of powder used	Number of pounds of dynamite used	Number of horses and mules
Clinton, Delaware and Hudson Co.	Lackawanna and Wayne	313,906	18,300	2,432	334,638	243	714	1	5	15,306	54,325	65
No. 1 Carbondale, Powderly No. 2, Arden, Arden, White Oak, No. 1, No. 2, Eddy Creek, Grassy Island No. 1,*	Lackawanna	45,045	15,339	.....	60,384	339	297	1	.....	4,196	1,491	54
		239,451	25,915	.....	265,366	334	.....	.....	.....	2,285	4,463	47
		171,465	24,000	3,135	196,210	197	481	1	.....	3,291	546	40
		134,893	15,645	1,468	151,906	151	481	.....	.....	3,283	22,752	43
		134,267	15,645	1,468	151,906	151	481	.....	.....	3,283	22,752	43
		365,837	38,147	36	404,020	245	1,035	1	.....	19,021	5,472	91
		.....	.....	.....	.....	.....	457	.....	.....	268	34	27
		1,390,473	141,000	10,301	1,541,924	201	4,943	4	11	54,355	88,776	420
Rocket Brook washery, Grassy Island washery,	Lackawanna, Lackawanna,	63,815	3,400	.....	67,215	188	34	.....	.....	.....	.....	.....
		74,294	8,825	.....	83,122	152	45	.....	.....	.....	.....	.....
		138,114	12,223	.....	150,337	190	79	.....	.....	.....	.....	.....
Totals,		1,528,587	173,283	10,301	1,692,261	201	5,022	4	11	54,355	88,776	420
Pennsylvania Coal Co.	Lackawanna,	200,586	3,783	2,306	206,675	201	781	.....	.....	14,460	8,547	55
Gipsy Grove,	Lackawanna,	132,049	.....	5	132,054	198	401	2	3	6,067	910	36
Totals,		432,635	3,783	2,311	438,729	200	1,182	2	7	20,527	9,457	91
Sterrick Creek Coal Co.	Lackawanna,	312,500	18,563	1,798	333,251	169	829	3	5	11,891	28,055	89

\*Coal from Grassy Island No. 1 prepared at No. 2 colliery.



Dolph, .....	Dolph Coal Co., Limited	Lackawanna,	255,120	25,000	1,169	291,289	223	622	3	5	9,655	7,000	58
Pancoast, .....	Price-Pancoast Coal Co.	Lackawanna,	126,289	27,375	1,022	154,666	126	943	2	2	7,869	7,240	90
Pancoast Washery, .....		Lackawanna,	60,497			60,497	35	53					
Totals, .....			186,786	27,375	1,022	215,183	126	998	2	2	7,869	7,240	10
Erie, .....	Hillside Coal and Iron Co.	Lackawanna,	111,860	13,003	2,432	126,595	180	459	1	5	5,471	10,520	44
Keystone, .....		Lackawanna,	49,488	712		50,200	163	94		2	983	231	15
Totals, .....			161,348	13,715	2,432	177,195	172	553	1	7	6,454	10,751	59
Moosic Mountain, .....	Moosic Mountain Coal Co.	Lackawanna,	131,655	7,825	1,857	141,377	214	237	2	1	5,963	1,677	45
Mt. Jessup, .....	Mt. Jessup Coal Co.	Lackawanna,	107,974	23,000	1,599	132,573	260	378	7	15	4,522	28,975	45
Edgerton, .....	Edgerton Coal Co.	Lackawanna,	97,765	5,763	191	103,659	143	182		1	2,804	319	22
Carney and Brown, .....	Carney and Brown Coal Co.	Lackawanna,	48,654	310	4,431	53,295	295	116		1	1,539	370	25
Black Diamond, .....	Black Diamond Coal Co.	Lackawanna,	39,394	3,890	8,118	42,292	264	169	4	1	1,584	3,600	20
Finn, .....	Finn Coal Co.	Lackawanna,	3,000	1,500	2,500	7,000	88	151		1	426	418	7
Grand totals, .....			3,316,398	284,277	37,510	3,638,194		10,440	28	60	127,971	186,672	971

TABLE 2.—Recapitulation

Names of Operators	County	Number of tons of coal shipped to market	Number of tons used at collieries for steam and heat	Number of tons sold to local trade and used by employees	Total production of coal in tons	Average number of days worked (not including washeries)	Number of employees	Number of fatal accidents	Number of non-fatal accidents	Number of kegs of powder used	Number of pounds of dynamite used	Number of horses and mules
Delaware and Hudson Co., .....	Lackawanna and Warren	1,528,587	153,283	10,391	1,692,261	201	5,022	4	14	54,355	88,770	420
Pennsylvania Coal Co., .....	Lackawanna	452,635	3,783	2,311	458,729	200	1,182	2	1	21,127	9,457	91
Hillside Coal and Iron Co., .....	Lackawanna	18,238	17,115	2,132	37,485	172	553	1	1	6,454	16,751	59
Price-Panoeast Coal Co., .....	Lackawanna	186,786	27,375	1,722	215,883	126	398	2	2	7,860	7,246	90
Miscellaneous companies, .....	Lackawanna	987,042	86,121	21,653	1,194,826	188	2,655	19	30	38,115	70,414	311
Totals, .....		3,316,398	284,977	37,519	3,638,194	189	10,440	28	60	127,971	186,682	971

TABLE 2.—Continued

Names of Operators	County	Number of Boilers				Locomotives			Total horse power	Number of steam engines of all classes	Total horse power	Number of pumps delivering water to surface	Capacity in gallons per minute	Quantity delivered to surface per minute—gallons	Number of electric dynamos	Number of air compressors
		Cylindrical	Horse power	Tubular	Horse power	Steam	Air	Electric								
Delaware and Hudson Co.,	Lackawanna and Wayne	99	3,021	35	6,850	9,871	8	6	3	116	14,337	34	44,020	16,660	3	3
Pennsylvania Coal Co.,		12	480	8	1,100	1,100	3			31	1,243	6	4,287	1,764	1	1
Sterrick Creek Coal Co.,		4	320	7	1,370	1,850	6			16	2,040	4	3,284	1,764	1	1
Prichard Coal Co., Limited,				8	1,265	1,585	2		1	14	1,050	5	1,350	2,500	3	3
Prichard Coal Co.,				8	1,368	1,368				25	1,618	5	1,200	800	3	1
Hillside Coal and Iron Co.,		25	520			520			1	11	380	6	4,330	3,480		
Moosic Mountain Coal Co.,		6	150	1	75	225	1			4	85			60		
Mt. Jessup Coal Co.,		6	150	10	750	900	2			13	500	3	1,250	800	1	1
Edgerton Coal Co.,		10	376	1	100	476	2			6	428					
Carney and Brown Coal Co.,		3	70	3	270	270				4	115					
Black Diamond Coal Co.,				1	60	130				4	111				1	
Finn Coal Co.,				2	150	150				3	150	3	800	500		
Totals,		165	5,087	84	13,358	18,445	24	6	5	247	22,057	68	61,181	26,504	12	19

TABLE 3.—Number of each class of employees inside and outside of mines

Names of companies and collieries	County	Inside										Outside										Grand totals inside and outside
		Mine foremen	Assistant mine foremen	Fire bosses and assistants	Miners	Miners' laborers	Drivers and runners	Poor boys and helpers	Pumpmen	Company men	All other employees	Total inside	Superintendents	Foremen	Blacksmiths and carpenters	Engineers and firemen	State pickers (boys)	State pickers (men)	Book-keepers and clerks	All other employees	Total outside	
Delaware and Hudson Co., Clinton, .....	Lackawanna and Wayne	1	8	.....	201	269	74	19	6	26	12	551	.....	1	6	11	28	39	1	77	163	714
No. 1 Carbondale, .....	Lackawanna,	1	1	.....	107	123	50	4	2	19	12	320	.....	1	6	11	6	7	1	45	77	297
Powderly No. 2, .....		1	1	.....	122	154	72	9	.....	17	10	359	.....	1	4	10	20	48	1	72	176	315
Whitely, .....		1	1	.....	195	208	73	21	.....	33	28	563	.....	1	3	10	6	23	1	36	84	647
White Oak, .....		1	1	.....	94	166	56	6	.....	15	10	352	.....	1	3	11	28	5	1	68	123	497
No. 2 Olyphant, .....		1	1	.....	170	186	72	9	.....	6	45	498	.....	1	3	25	31	44	1	87	199	677
Eddy Creek, .....		1	1	.....	4	288	292	91	15	4	41	13	841	.....	1	2	22	69	45	12	104	1,057
Grassy Island No. 1, .....		1	1	.....	144	194	15	4	.....	22	13	396	.....	1	2	22	.....	.....	.....	36	61	457
Totals, .....	Lackawanna, Lackawanna,	8	16	12	1,321	1,623	483	87	26	218	76	3,880	.....	8	45	163	198	211	9	439	1,963	4,943
Racket Brook washery, .....	Lackawanna, Lackawanna,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	1	2	.....	10	.....	20	34	34
Grassy Island washery, .....		.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	1	4	13	.....	26	45	45
Totals, .....	Lackawanna,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2	3	6	13	10	.....	46	64	69
Pennsylvania Coal Co., No. 1, Gipsy Grove, .....	Lackawanna,	8	16	12	1,321	1,623	483	87	26	218	76	3,880	.....	10	47	149	211	221	9	335	1,342	5,022
Totals, .....	Lackawanna,	2	.....	1	218	229	79	18	2	47	15	611	.....	1	12	17	40	24	2	74	170	781
Gipsy Grove, .....	Lackawanna,	1	.....	.....	137	86	56	9	.....	12	4	305	.....	.....	2	3	43	11	1	36	96	401
Totals, .....	Lackawanna,	3	.....	1	355	315	135	27	2	59	19	916	.....	1	14	20	83	35	3	110	266	1,182

TABLE 3.—Recapitulation

Sterrick Creek Coal Co.	3	2	2	235	19	91	29	3	10	15	631	....	1	12	17	56	3	2	116	298	329
Sterrick Creek, .....																					
Dolph Coal Co., Limited, .....	2	....	....	186	116	61	10	3	12	3	393	1	1	12	21	37	86	6	65	229	622
Price-Pancoast Coal Co.	2	2	5	218	240	115	40	19	85	....	717	1	1	10	16	40	90	3	65	226	943
Pancoast washery, .....																					
Totals, .....	2	2	5	218	240	115	40	10	85	....	717	2	2	12	17	46	90	3	109	231	998
Hillside Coal and Iron Co.	1	1	....	138	138	44	5	2	22	4	355	1	1	5	9	13	19	2	54	104	459
Erie, .....	1	....	....	26	26	14	....	....	2	3	72	....	1	1	2	4	2	....	12	22	94
Keystone, .....	2	1	....	164	164	58	5	2	24	7	427	1	2	6	11	17	21	2	66	126	552
Totals, .....																					
Moosic Mountain Coal Co.	1	1	....	80	60	37	12	2	16	....	209	1	1	7	8	....	....	2	9	28	237
Moosic Mountain, .....																					
Mt. Jessup Coal Co.	1	2	1	106	52	39	5	6	45	....	257	1	1	7	23	43	15	3	28	121	378
Mt. Jessup, .....																					
Edgerton Coal Co.	2	....	....	38	51	7	2	....	14	....	114	....	1	6	2	17	11	2	20	68	182
Edgerton, .....																					
Carney and Brown Coal Co.	1	....	....	21	21	22	....	....	11	4	80	1	1	2	2	14	....	1	15	36	116
Carney and Brown, .....																					
Black Diamond Coal Co.	2	....	....	40	48	12	3	....	1	....	106	1	....	2	2	8	10	1	30	54	160
Black Diamond, .....																					
Finn Coal Co.	1	....	....	34	34	8	3	1	4	32	117	1	1	2	3	15	7	2	3	34	151
Finn, .....																					
Grand totals, .....	28	24	22	2,798	2,933	1,068	214	55	549	156	7,847	9	22	130	225	547	499	36	1,115	2,593	10,440

Lackawanna, .....	8	16	12	1,321	1,633	483	87	26	218	76	3,880	....	10	47	109	211	221	9	535	1,142	5,022
Lackawanna and Wayne																					
Pennsylvania Coal Co., .....	3	....	1	357	315	125	27	2	59	19	916	....	1	14	20	83	35	3	110	266	1,182
Hillside Coal and Iron Co., .....	1	....	....	184	164	58	5	2	24	7	427	1	2	6	11	17	21	2	66	126	553
Price-Pancoast Coal Co., .....	1	....	....	218	240	115	40	10	85	....	717	2	2	12	17	46	90	3	109	231	998
Miscellaneous companies, .....	13	5	4	740	581	277	55	15	163	54	1,907	6	7	51	78	190	132	19	295	778	2,685
Totals, .....	28	24	22	2,798	2,933	1,068	214	55	549	156	7,847	9	22	130	225	547	499	36	1,115	2,593	10,440

TABLE 3.—Continued

Names of Operators	County	Average Number of Days Worked in Breaker												Total
		January	February	March	April	May	June	July	August	September	October	November	December	
Delaware and Hudson Co.,	Lackawanna	20	18	19	19	20	20	17	14	8	13	16	17	201
Pennsylvania Coal Co.,	and Wayne	12	10	13	24	24	25	15	18	14	13	14	17	200
Sterrick Creek Coal Co.,		11	9	4	20	17	20	15	13	8	11	14	15	189
Dolph Coal Co., Limited,		18	24	25	15	23	22	17	22	14	11	21	22	223
Price-Pancoat Coal Co.,		23	23	16	17	17	18	8	10	13	13	15	14	172
Hillside Coal and Iron Co.,		10	17	18	17	17	20	11	17	13	12	19	18	214
Moosic Mountain Coal Co.,		15	17	18	19	19	20	17	17	15	20	19	18	260
Mt. Jessup Coal Co.,		20	22	22	23	22	23	20	21	19	23	23	22	243
Edgerton Coal Co.,		10	9	12	13	14	14	12	14	12	11	12	10	143
Carver and Brown Coal Co.,		20	19	15	20	15	20	17	20	11	18	11	19	205
Black Diamond Coal Co.,		19	20	22	22	22	23	23	21	21	21	21	24	264
Finn Coal Co.,		20	10								15	22	22	88
General averages,		17	16	15	16	16	17	15	17	13	14	16	17	189



TABLE 4.—Fatal accidents inside and outside of mines

Date of accident	Name of Person	Nationality	Occupation	Age	Married or single	Number of widows	Number of orphans	Name of Mine	County	Nature and Cause of Accident in Brief
Jan. 11.	Joseph Stanger.	Austrian.	Laborer.	26	S.	.....	.....	Moosic Mt.	Lackawanna.	Fatally injured by a fall of roof while shoveling coal from cross-cut.
19.	John Brosser.	American.	Laborer.	35	M.	1	3	Eddy Creek No. 2.	Lackawanna.	Fatally injured by a fall of fire clay roof while loading a car.
57.	Stanley Archefski.	Polish.	Miner.	23	S.	.....	.....	Dolph.	Lackawanna.	Fatally injured by a fall of roof near face of chamber.
Feb. 11.	Thomas Scott.	English.	Miner.	41	M.	1	1	Pancast.	Lackawanna.	Fatally injured by a fall of roof in form of "sauble." Died at hospital March 15.
12.	Adam Lashoski.	Polish.	Miner.	44	M.	1	.....	Dolph.	Lackawanna.	Fatally injured by a fall of "black head" of one hundred feet back from face of chamber.
20.	Michael Zilinski.	Polish.	Miner.	40	M.	1	7	Black Diamond.	Lackawanna.	Killed instantly by a fall of roof near face of chamber.
29.	Anthony Pavitz.	Austrian.	Miner.	32	S.	.....	.....	Clinton.	Lackawanna.	Back broke in two places by a fall of roof near face of chamber. Died at hospital May 19.
Mar. 5.	Stanley Kroplinski.	American.	Driver.	16	S.	.....	.....	No. 1 Carbondale.	Lackawanna.	Fatally injured by mine cars near foot of plane.
10.	Michael Wartowski.	Russian.	Boorman.	35	M.	1	.....	Jermyn.	Lackawanna.	Fatally injured by a runaway car from a chamber.
14.	Peter Kowatch.	Slavonian.	Outside car loader.	41	M.	1	3	Dolph.	Lackawanna.	Fatally injured by being squeezed between railroad cars under the breaker.
Apr. 18.	Frank Symkovitch.	Polish.	Laborer.	26	S.	.....	.....	Black Diamond.	Lackawanna.	Fatally injured by an explosion of dynamite powder while thawing it with mining lamp.
June 16.	John T. Monahan.	Irish.	Miner.	40	M.	1	4	Gipsy Grove.	Lackawanna.	Fatally injured by a fall of "black head" while drilling a hole.
16.	James Tighe.	American.	Footman.	41	M.	1	1	Gipsy Grove.	Lackawanna.	Killed almost instantly by mine cars. He attempted to uncouple them while in motion and fell.
17.	Thomas Vygg.	Polish.	Miner.	53	M.	1	.....	Black Diamond.	Lackawanna.	Fatally injured by a fall of roof after re-turning from firing a shot of coal while loading a car near face of chamber.
18.	Anthony Guyeskie.	Polish.	Laborer.	51	M.	1	3	Sterrick Creek.	Lackawanna.	Fatally injured by a fall of roof near face of chamber while barring out a shot.
July 18.	Acosti Acotti.	Italian.	Miner.	34	M.	1	2	Mt. Jessup.	Lackawanna.	

TABLE 4. Continued

Date of accident	Name of Person	Nationality	Occupation	Age	Married or single	Number of widows	Number of orphans	Name of Mine	County	Nature and cause of Accident in Brief
July 27.	Charles Maukey, .....	American, ..	Miner, .....	35	M.	1	4	Black Diamond, ..	Lackawanna,	Fatally injured by flying coal from a blast which he was firing.
Aug. 22.	Thomas Glynn, .....	American, ..	Laborer, ..	19	S.	....	....	Mt. Jessup, .....	Lackawanna,	Fatally injured by a fall of roof while assisting a timberman to replace a set of timbers.
27.	Michael Handley, .....	Irish, .....	Outside headman, ..	25	S.	....	....	Mt. Jessup, .....	Lackawanna,	Fatally injured by being caught between the bonnet of cage and the side of shaft.
Sept. 1.	Andrew Brushica, .....	Hungarian, ..	Outside car loader, ..	27	S.	....	....	Mt. Jessup, .....	Lackawanna,	Fatally injured by falling off platform and being crushed by a part of platform.
6.	Michael Dombroski, .....	Polish, .....	Outside laborer, ..	68	M.	1	2	Panecast, .....	Lackawanna,	Fatally injured by a part of slash chute falling upon him while carpenters were taking it down.
14.	Michael Barnett, .....	Irish, .....	Laborer, ..	47	M.	1	4	Mt. Jessup, .....	Lackawanna,	Fatally injured by being squeezed between a spur wheel and a concrete foundation.
15.	Paul Gumza, .....	Russian, ....	Outside laborer, ..	21	M.	1	....	Sterrick Creek, ...	Lackawanna,	Fatally injured by being squeezed between railroad cars and platform under breaker.
28.	John Machonski, .....	Polish, .....	Miner, .....	40	S.	....	....	Mt. Jessup, .....	Lackawanna,	Fatally injured by an explosion of gas.
28.	George Bustha, .....	German, .....	Inside headman, ..	29	S.	....	....	New sinking shaft Sterrick Creek,	Lackawanna,	Fatally injured by falling down shaft while trying to steady the bucket.
14.	Alexander Figle, .....	Slovakian, ..	Outside laborer, ..	23	M.	1	3	Moosie Mt., .....	Lackawanna,	Fatally injured by being struck by a mine car and knocked under it at the dump.
Nov. 23.	Tobias Mullen, .....	American, ..	Miner, .....	21	S.	....	....	Erie Shaft, .....	Lackawanna,	Fatally injured by a fall of the top bench and which was left over-hanging, while he was barring out a shot.
16.	Michael Cochity, .....	Polish, .....	Laborer, ..	25	S.	....	....	Mt. Jessup, .....	Lackawanna,	Fatally injured by a fall of roof while assisting his miner to tamp a hole in top rock.

TABLE 5.—Non-fatal accidents inside and outside of mines

Date of accident	Name of Person	Nationality	Occupation	Age	Married or single	Name of Mine	County	Nature and Cause of Accident in Brief
Jan. 12.	Wasil Kewski, .....	Russian, .....	Laborer, .....	26	S.	Grassy Island slope,	Lackawanna,	'Cut about face and head by flying coal from a blast.
13.	Andrew Marko, .....	Hungarian, .....	Laborer, .....	45	M.	Pancoast, .....	Lackawanna,	'Cut and bruised about face and arms by premature blast.
19.	Bernard C. Gslus, .....	American, .....	Footman, .....	32	M.	Erle shaft, .....	Lackawanna,	Arm fractured by a piece of coal falling down shaft.
21.	John Finnerty, .....	American, .....	Runner, .....	22	S.	Sterrick Creek, ....	Lackawanna,	Arm cut off and two ribs fractured by falling under a trip of loaded cars.
27.	Michael Dougher, .....	American, .....	Outside engineer, .....	35	M.	Edgerton, .....	Lackawanna,	Leg fractured by being squeezed between a timber and a locomotive.
Feb. 3.	Michael Monsok, .....	Slavonian, .....	Driver, .....	20	S.	Sterrick Creek, ....	Lackawanna,	Knee dislocated by being squeezed by cars.
27.	Anthony Corneski, .....	Polish, .....	Outside 1 a b over, .....	20	S.	Mt. Jessup, .....	Lackawanna,	Leg fractured while dumping a railroad car.
Mar. 17.	William Stark, .....	German, .....	Engineer, .....	31	M.	Mt. Jessup, .....	Lackawanna,	Foot bruised by loaded car while assisting to replace it on track.
18.	John Smith, .....	Irish, .....	Driver, .....	17	S.	Mt. Jessup, .....	Lackawanna,	Leg squeezed by loaded cars from which he fell while riding.
22.	Benjamin Williams, .....	Welsh, .....	Outside 1 a b over, .....	32	M.	Pancoast, .....	Lackawanna,	Injured internally by being squeezed between a bed plate and balance wheel.
24.	Jacob Caperay, .....	Italian, .....	Miner, .....	33	M.	Hannabel, .....	Lackawanna,	Injured internally by a fall of roof.
31.	John Skiver, .....	Polish, .....	Doorboy, .....	17	S.	Mt. Jessup, .....	Lackawanna,	Head and face injured by flying coal from a blast.
Apr. 18.	Andrew Dombedo, .....	Polish, .....	Miner, .....	42	M.	Black Diamond, ....	Lackawanna,	Injured about breast, arms and legs by an explosion of dynamite powder.
18.	Sebastian Gebert, .....	German, .....	Miner, .....	47	M.	White Oak, .....	Lackawanna,	Blow about face and hands with blasting powder.
23.	Karl Korner, .....	German, .....	Runner, .....	19	S.	Gipsy Grove, .....	Lackawanna,	Bruised about the body by being squeezed between car and roof.
May 18.	Martin Balzar, .....	Polish, .....	Driver, .....	18	S.	Dolph, .....	Lackawanna,	Leg fractured by a fall of roof.
19.	Michael Wevelcke, .....	Polish, .....	Miner, .....	41	M.	Erle shaft, .....	Lackawanna,	Back injured by a fall of roof.
24.	Benjamin Wakari, .....	Italian, .....	Miner, .....	30	M.	Sterrick Creek, ....	Lackawanna,	Head injured by flying coals from a blast.
June 3.	Thomas Sullivan, .....	American, .....	Laborer, .....	29	S.	Olyphant No. 2, ...	Lackawanna,	Fractured leg by being squeezed by mine car.
6.	Thomas Mulrane, .....	Irish, .....	Outside car runner, .....	25	S.	Gipsy Grove, .....	Lackawanna,	Left leg cut off and right leg bruised by railroad car.
6.	Frank Dipple, .....	German, .....	Driver, .....	18	S.	Mt. Jessup, .....	Lackawanna,	Leg fractured by mine cars.

TABLE 5.—Continued

Date of accident	Name of Person	Nationality	Occupation	Age	Married or single	Name of Mine	County	Nature and Cause of Accident in Brief
June	18. Thomas Boylan, .....	American, .....	Asst. foreman, .....	45	M.	Powderly, .....	Lackawanna,	Head injured by mine car falling on him.
	21. Michael Youchuk, .....	Austrian, .....	Laborer, .....	34	M.	Clinton, .....	Lackawanna,	Hip fractured by a fall of coal.
	22. Michael Yurkeski, .....	Austrian, .....	Miner, .....	25	M.	Keystone, .....	Lackawanna,	Burned about face, hands and breast by a cartridge of blasting powder.
	25. Anthony Lomas, .....	Austrian, .....	Laborer, .....	28	M.	Clinton, .....	Lackawanna,	Head injured and ankle fractured by a fall of roof.
July	11. Joseph Foroni, .....	Italian, .....	Miner, .....	28	S.	Sterrick Creek, .....	Lackawanna,	Back injured by a fall of roof.
	18. Michael Coggins, .....	American, .....	A s t. driver, .....	24	S.	Powderly, .....	Lackawanna,	Head cut and hips bruised by a fall of coal.
	18. John Sperko, .....	Polish, .....	Miner, .....	36	M.	Sterrick Creek, .....	Lackawanna,	Head and back injured by a fall of roof.
	16. Albert Hilling, .....	American, .....	Outside driver, .....	18	S.	Moosic Mt., .....	Lackawanna,	Back bruised and scalp wounded by being dragged by a mule.
	25. Stanko Schuyka, .....	Slavonian, .....	Miner, .....	37	S.	No. 2 Penna., .....	Lackawanna,	Hand crushed and one finger cut off by mine cars.
	28. John Yuckno, .....	Slavonian, .....	Laborer, .....	31	M.	Olyphant No. 2, .....	Lackawanna,	Leg fractured by a piece of coal rolling against him.
Aug.	9. Frank Vishniefski, .....	Polish, .....	Miner, .....	29	M.	Mt. Jessup, .....	Lackawanna,	Back injured by a fall of top slate.
	9. Paul Lukaba, .....	Slavonian, .....	Miner, .....	40	M.	No. 2 Penna., .....	Lackawanna,	Thigh fractured by a fall of roof.
	16. Rigs Baldinelli, .....	Italian, .....	Driver, .....	20	S.	Dolph, .....	Lackawanna,	Leg fractured by mine cars.
	19. Thomas Wignall, .....	English, .....	Miner, .....	47	M.	Keystone, .....	Lackawanna,	Spine fractured by a fall of roof.
	22. John McGarry, .....	Irish, .....	Miner, .....	52	M.	Erle shaft, .....	Lackawanna,	Leg fractured by a fall of roof.
	13. James Knox, .....	American, .....	Runner, .....	18	S.	No. 1 Penna., .....	Lackawanna,	Part of hand taken off by being caught between a sprag and lump of coal.
	25. Andrew Crokas, .....	Hungarian, .....	Miner, .....	26	S.	Hannabel, .....	Lackawanna,	Leg fractured by a mine car.
	29. Henry Tevan, .....	Irish, .....	Miner, .....	28	S.	Gipsy Grove, .....	Lackawanna,	Hand cut off by a fall of roof bone which struck his hand against drill.
Sept.	28. Benjamin Mareum, .....	Italian, .....	Miner, .....	40	S.	Mt. Jessup, .....	Lackawanna,	Face, hands and body burned by an explosion of gas.
	28. John Turks, .....	Hungarian, .....	Laborer, .....	30	S.	Mt. Jessup, .....	Lackawanna,	Leg fractured by a piece of coal rolling upon him.
	28. Joseph Skover, .....	Hungarian, .....	Miner, .....	35	M.	Mt. Jessup, .....	Lackawanna,	Fractured leg by a piece of coal bursting from pillar and striking him.
	28. John Burbee, .....	Hungarian, .....	Laborer, .....	25	S.	Mt. Jessup, .....	Lackawanna,	Back injured by a fall of slate roof.
	28. Paul Maschavitch, .....	Hungarian, .....	Laborer, .....	35	M.	Mt. Jessup, .....	Lackawanna,	
	1. James Tierney, .....	Irish, .....	Miner, .....	38	M.	Erle shaft, .....	Lackawanna,	
Oct.	5. Michael Carden, .....	Irish, .....	Laborer, .....	37	M.	Carney and Brown, .....	Lackawanna,	
	11. John Wasko, .....	Polish, .....	Laborer, .....	40	M.	Mt. Jessup, .....	Lackawanna,	

Oct.	18.	Stanko Russavaga, .....	Slavonian, .....	Laborer, .....	57	M. No. 2 Penna., .....	Lackawanna,	Back and side injured by a fall of "black head."
	24.	Anthony Julius, .....	Austrian, .....	Miner, .....	34	M. Clinton, .....	Lackawanna,	Burned about face by an explosion of dynamite powder.
	26.	John Burgess, .....	English, .....	Footman, .....	22	S. Olyphant No. 2, ....	Lackawanna,	Arm fractured by coal falling down shaft.
Nov.	3.	John Cherney, .....	Polish, .....	Driver, .....	19	S. Clinton, .....	Wayne, .....	Fractured skull and bruised about the stomach by being kicked by a mule.
	14.	James Yatamus, .....	Lithuanian, .....	Miner, .....	24	S. Erie shaft, .....	Lackawanna,	First and second fingers of left hand taken off by a stick of dynamite.
	23.	Patrick Lynch, .....	American, .....	Outside slate picker, .....	14	S. Mt. Jessup, .....	Lackawanna,	Leg and arm fractured by falling from a trestle.
	26.	Bartley Gontar, .....	Austrian, .....	Laborer, .....	29	S. Clinton, .....	Lackawanna,	Dislocated ankle and injured internally by a fall of middle rock.
	28.	Peter Bolland, .....	American, .....	Miner, .....	25	M. Olyphant No. 2, ....	Lackawanna,	Hip splintered by a fall of roof.
	30.	John Sylvester, .....	Italian, .....	Miner, .....	41	M. Mt. Jessup, .....	Lackawanna,	Back and foot injured by a fall of roof.
Dec.	8.	Frank Basetti, .....	Italian, .....	Miner, .....	29	S. Dolph, .....	Lackawanna,	Leg fractured by being struck by a piece of coal flying from a blast.
	15.	Samuel McClarien, .....	Irish, .....	Miner, .....	56	M. Finn, .....	Lackawanna,	Leg and back bruised by a fall of roof near face of chamber.
	29.	Michael Smalley, .....	Russian, .....	Miner, .....	43	M. Eddy Creek, .....	Lackawanna,	Knee cap broken by a piece of coal falling against him while barring out a shot.



## Accidents by Falls of Coal, Slate and Roof

There were 28 fatal and 60 non-fatal accidents reported during the year. Table C shows that 21, or 75 per cent. of the fatal accidents occurred inside the mines, and 7, or 25 per cent. outside. Fourteen, or 66 per cent., were caused by falls of coal and roof. Nine miners were killed by accidents of this kind, and upon investigation it was learned that six of the accidents were due to the carelessness of the victims, who had neglected to examine the roof carefully before resuming work after firing blasts, or had neglected to keep the roof properly secured with timbers. Four miners' laborers and one company laborer were killed by accidents of this kind. Ten of the 14 accidents of this kind could have been avoided had the proper care been exercised. The statement of this fact should impress the miner very forcibly with the necessity for more care and more judgment in the performance of his work.

## CONDITION OF COLLIERIES

## DELAWARE AND HUDSON COMPANY

An ample volume of air enters most of the mines, but the current is not conducted to the face of the workings in some of them. The conditions as to safety are good; roads and drainage are good.

## PENNSYLVANIA COAL COMPANY

Ventilation in some of the mines is good; in others it can be improved a little by conducting the current to the face of the workings.

Roads fair, drainage fair.

Condition as to safety, good.

## STERRICK CREEK COAL COMPANY

Sterrick Creek.—Ventilation bad. Roads and drainage good. Condition as to safety good.

## DOLPH COAL COMPANY, LIMITED.

Dolph.—Ventilation fair. Roads and drainage good. Condition as to safety good.

## PRICE-PANCOAST COAL COMPANY

Pancoast. Ventilation good. Roads and drainage good. Condition as to safety, good.

## HILLSIDE COAL AND IRON COMPANY

Erie and Keystone.—Ventilation fair. Roads and drainage fair. Condition as to safety, fair.

## MOOSIC MOUNTAIN COAL COMPANY

Moosic Mountain.—Ventilation fair. Roads and drainage bad. Condition as to safety, fair.



## MT. JESSUP COAL COMPANY

Mt. Jessup.—Ventilation bad. Roads and drainage bad. Condition as to safety, fair.

## EDGERTON COAL COMPANY

Edgerton.—Ventilation fair. Roads and drainage fair. Condition as to safety, fair.

## CARNEY AND BROWN COAL COMPANY

Murray.—Ventilation, roads and drainage fair. Condition as to safety, fair.

## BLACK DIAMOND COAL COMPANY

Black Diamond.—Ventilation good. Roads and drainage fair. Condition as to safety, fair.

## FINN COAL COMPANY

Finn.—Ventilation fair. Roads and drainage fair. Condition as to safety, fair.

## IMPROVEMENTS

## DELAWARE AND HUDSON COMPANY

Clinton.—New slope in Grassy vein sunk to a depth of 1,000 feet. Also a second opening completed. Three thousand six hundred feet of track laid from Grassy slope to breaker with 40-lb rail. One 6-wheel, 12-ton locomotive added to haul the coal from Grassy slope to breaker. Three new cylinder boilers 30 inches by 50 feet added to boiler plant. Two thousand feet of tail rope for haulage in the main slope completed.

No. 1 Carbondale.—One 10 foot Guibal fan installed driven by direct engine 8x10 inch to ventilate third vein in No. 3 shaft. One 16 inch bore hole from foot of slope to surface for delivering water from slope pumps.

White Oak.—Three thousand six hundred feet of tail rope for haulage from the Clark vein to the surface completed. One pair of double engines 14x20 inch cylinders to operate the same. Slope in Dunmore vein sectional area 7x10 feet driven through "anticlinal" 250 feet completed.

Jermyn.—Rock plane section 7x14 feet driven from Grassy vein to the Clark vein, a distance of 400 feet. Also a second opening 600 feet in length driven to the surface.

Grassy Island.—The old shaft is being sunk from the 14 foot vein to the bottom split, a distance of 45 feet. The purpose is to make a second opening for the same vein in the new shaft. A large sump is being made to be used in emergency. A new brick engine room has been erected at new shaft for shaft engines, which are on the ground.

Eddy Creek.—Erection of new Guibal fan 28x8 feet with new brick engine room. The shaft is being enlarged from 10x23 feet in section to 12x33 feet 4 inches. At "Birds Eye" a Guibal fan 8x3 feet has been erected, driven by electricity at a speed of 200 revolutions per minute.

Olyphant No. 2.—The 4-foot vein has been cut by two rock planes.

#### PENNSYLVANIA COAL COMPANY

Gipsy Grove, Outside.—New pair of 15x24 inch geared hoisting engines for shaft. Stable inside with capacity of 20 mules in second Dunmore vein. In third Dunmore vein a stable of same capacity was made.

No. 1 Colliery.—Work is progressing on installation of additional horse power Babcock and Wilcox boilers, which will increase the capacity to 1,200 horse power. A new 10-foot forced draft fan is being erected for the same; also, new Cochrane feed water heater and 12x8x12 inch duplex Scranton pump. A new water tank is being built with a capacity of 50,000 gallons. One alternating current generator 2,300 volts 7 5-10 amperes, speed 1,200 revolutions, belted to a 10x10 inch, 62 horse power McEwen engine. This furnishes power to run the drills and a 20 horse power induction motor, with 220 volts 50 amperes. The 20 horse power induction motor is located at the river end of the tunnel, about 7,500 feet from the generator and is used to run a 57 inch exhaust fan which supplies air to the tunnel. It is connected by belt to a 5 horse power dynamo which gives the direct current to the motors which run the drills. Also one Rand air compressor to furnish power to run air drills at No. 1 end of tunnel. New car and blacksmith shop 30x112 feet with 16x20 feet ell. New supply house 34x50 feet.

Water tunnel from Lackawanna river to No. 1 shaft has been driven in 1,200 feet during the year, and on the No. 1 end of the tunnel 500 feet. In the third Dunmore vein a new gravity plane has been made, section 6x15 feet and 800 feet in length. A new stable has been made in same vein with capacity of 30 mules; also new air bridge sectional area 60 feet and new 16x8½x14 inch Scranton pump.

No. 2 Shaft.—New locomotive boiler, outside. Work is progressing on new engine plant. When completed will be about 5,000 feet in length and will be operated by a pair of 15x24 inch geared hoisting engines, which are now on the foundation. New air course and traveling way have been made at No. 1 tunnel.

#### STERRICK CREEK COAL COMPANY

Sterrick Creek.—The new shaft 12x30 feet in section which was commenced to sink in 1903 has been completed. This shaft is sunk

to the Red Ash vein, a distance of 514 feet from the surface. A pair of 26x48 inch first motion hoisting engines has been erected to operate this shaft. An 800 horse power, water tube boiler plant, has been installed near this shaft. Also a new fan has been erected, Guibal pattern 8x25 feet to ventilate the Red Ash vein. Both the empty and loaded trestles at the breaker have been rebuilt. The breaker structure has been renewed and reinforced and breaker pockets practically rebuilt.

#### DOLPH COAL COMPANY, LIMITED

Extensive repairs and improvements in breaker enlarged the capacity and changed the method of handling the coal on the outside. A new chain hoist has been put in which elevates the empty cars sufficiently to run by gravity from the breaker to a point where they are then taken to the mine by an electric motor, which has also been installed. This dispenses with all mules formerly used for this purpose and is a decided improvement. The new air shaft to the Clark vein has been enlarged and timbered. One 300 horse power Babcock and Wilson water tube boiler has been added to the boiler plant.

#### PRICE-PANCOAST COAL COMPANY

The Pancoast colliery was totally destroyed by fire on the evening of March 11. It has been replaced by a much larger and more modern breaker, capacity 2,500 tons per day, with all the latest improved machinery for cleaning and preparing coal. The breaker is connected by a steel bridge 46 feet long to a steel tower built over the shaft, which is 160 feet in height. A concrete wall 3 feet in thickness has been put around the shaft to take the place of timber which was used as cribbing prior to the destruction of breaker. A new building has been erected that contains a carpenter shop 50 feet square, blacksmith shop 36 feet square, machine shop 80x36 feet with steel roof and concrete floor, making them almost absolutely fire-proof. A new wash house has been erected of brick material 20x14 feet with stationary tubs, hot and cold water for the convenience of employes. The breaker is lighted by 250 incandescent lights and 20 arc lights and heated throughout by steam. A new automatic water spray arrangement is being placed throughout the breaker as a protection against fire. A new Guibal fan 20 feet in diameter has been erected for the purpose of ventilating Nos. 1, 2 and 3 veins; also a 35 foot Guibal fan to ventilate the Clark and Dunmore veins.

In the Diamond vein the gravity plane has been extended 200 feet, and a new foot in shaft to replace old one in No. 3 vein.

No. 1 plane has been extended 500 feet, new air bridges have been built, and new air ways have been driven.

Clark vein No. 1 plane has been extended 1,200 feet, and a pair of 10x12 inch engines placed at the bottom to take the place of gravity wheels. This plane is now 2,300 feet in length.

No. 2 plane was extended 200 feet.

Dunmore vein, a slope, has been sunk 350 feet on the west side of shaft and a pair of engines 10x12 inch put in for hoisting the coal. An engine plane has been made on the east side of shaft 700 feet in length and a pair of engines 10x12 inch put in to operate it. The hoisting shaft and also the main shaft have been thoroughly repaired. A new steel tower was erected over the man shaft. The inside and outside have been converted into a new colliery.

#### HILLSIDE COAL AND IRON COMPANY

Erie Colliery.—An air shaft put down on the west side of the Lackawanna river from the surface to the new county vein, area 10x10 and 35 feet in depth. A Guibal fan 12 feet in diameter has been installed to be driven by a 40-horse power electric motor. Near the breaker a brick electric power house 30x35 feet has been erected, and an additional 90 K. W., 275 volt generator, driven by a 145 H. P. Armington and Sims engine, is being erected. An additional  $7\frac{1}{2}$  ton electric motor with cable reel attachment has been added to the inside equipment.

Keystone Colliery.—A tunnel 7x10 feet area and 100 feet in length, has been driven from the surface to the new county vein. A new track has been laid 2,000 feet in length from the tunnel to the head of a new plane 900 feet in length which has been constructed.

#### BLACK DIAMOND COAL COMPANY

An electric plant which consists of a building 16x30 feet, with a 25 horse power high speed McEwen engine, a  $7\frac{1}{2}$  K. W. dynamo, switch-board complete. This furnishes the power necessary for driving two-electric rotary drills for mining purposes inside.

#### FINN COAL COMPANY

Erection of new breaker, dimensions of which are 54x60 feet. One large screen, two sets of elevators, one pair of big rolls, one pair pony rolls, one pair of crushers. Breaker engine 16x24 inch cylinder, 75 horse power. Capacity of breaker 300 tons daily.



## Third District

LACKAWANNA COUNTY

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Scranton, Pa., February 14, 1905.

Hon. James E. Roderick, Chief of Department of Mines:

Sir: I have the honor of transmitting my report as Inspector of Mines for the Third Anthracite District, for the year 1904, as provided by the act of 1903.

It contains the usual statistics. The accidents that occurred during the year, and which have been reported to the Department from time to time, will be found in tabulated form.

Respectfully submitted,

H. O. PRYTHERCH,  
Inspector.

## SUMMARY OF STATISTICS

Number of collieries, .....	20
Number of mines, .....	25
Number of mines in operation, .....	25
Number of tons of coal shipped to market, .....	3,889,676
Number of tons used at mines for steam and heat, .....	244,314
Number of tons sold to local trade and used by employes, .....	246,334
Number of tons of coal produced, .....	4,380,324
Number of persons employed inside of mines, .....	7,348
Number of persons employed outside, .....	2,372
Number of fatal accidents inside of mines, .....	32
Number of fatal accidents outside, .....	4
Number of non-fatal accidents inside of mines, .....	73
Number of non-fatal accidents outside, .....	11
Number of tons of coal produced per fatal accident inside, .....	136,885
Number of persons employed per fatal accident inside, .....	230
Number of persons employed per fatal accident outside, .....	593
Number of persons employed per non-fatal accident inside, .....	101
Number of persons employed per non-fatal accident outside, .....	216
Number of wives made widows by fatal accidents, .....	21
Number of children orphaned by fatal accidents, .....	43
Number of steam locomotives used outside, .....	10
Number of compressed air locomotives used inside, .....	5
Number of electric motors used inside, .....	23
Number of fans used for ventilation, .....	28
Number of gaseous mines in operation, .....	18
Number of non-gaseous mines in operation, .....	7



## TABLE A

## PRODUCTION OF COAL

Names of Operators	Tons
Delaware, Lackawanna and Western Railroad Company, .	1,942,189
Scranton Coal Company, .....	1,012,116
Delaware and Hudson Company, .....	496,140
People's Coal Company, .....	385,951
Pennsylvania Coal Company, .....	202,059
Greene Ridge Coal Company, .....	140,803
A. D. and F. M. Spencer, .....	64,680
Economy Light, Heat and Power Company, .....	54,583
Nay Aug Coal Company, .....	48,330
Bull's Head Coal Company, .....	18,893
J. J. Gibbons, .....	11,040
Mountain Lake Coal Company, .....	3,540
Total, .....	4,380,324

## Production by Counties

Lackawanna, .....	4,380,324
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TABLE B.—Fatal and non-fatal accidents inside and outside of mines; number of tons of coal produced per accident; number of persons employed; number employed per accident

Names of Operators	Fatal Accidents			Non Fatal Accidents			Tons of coal produced per fatal accident inside	Number of employees inside	Number of employees outside	Total number of employees	Number of employees inside per fatal accident	Number of employees outside per non-fatal accident	Number of employees outside per non-fatal accident
	Fatal Accidents			Non Fatal Accidents									
	Inside	Outside	Total	Inside	Outside	Total							
Delaware, Lackawanna and Western R. Co.	12	1	13	29	3	33	161,839	3,256	912	4,169	271	913	228
Seranton Coal Company.	3	1	4	18	4	22	337,372	1,714	765	2,479	371	765	176
Delaware and Hudson Co.,	3	1	4	4	1	5	167,380	1,037	242	1,279	346	242	212
People's Coal Co.,	3	1	4	13	1	14	48,244	393	147	542	49	147	147
Pennsylvania Coal Co.,	3	1	4	3	4	7	97,335	398	78	476	133	100	147
Green Ridge Coal Co.,	3	1	4	3	1	4	46,364	306	90	396	102	100	147
A. J. and F. M. Spencer,	3	1	4	2	1	3	32,240	150	97	247	70	75	97
Nay Aug Coal Co.,	3	1	4	1	1	2	24,165	32	38	55	33	16	16
Hull's Head Coal Co.,	3	1	4	1	1	2	18,933	28	39	67	32	32	32
Miscellaneous companies.	3	1	4	1	1	2	18,933	28	39	67	32	39	32
Totals and averages for district.	32	4	36	73	11	84	136,887	7,348	2,372	9,720	230	583	216

TABLE C.—Classification of fatal accidents inside and outside of mines

	Inside										Outside							Grand total		
	By Falls of					By Falling Into					Total inside									
	Coal	Slate	Roof	By mine cars	By explosion of gas	Smothered by gas	By powder and dynamite	By blasts, etc.	Shafts	Slopes	Manways, breast, etc.	Crushed at batteries	By mules	Suffocated by coal, etc.	Miscellaneous causes					
January.....			1	2												1	1	1	1	4
February.....			1																	1
March.....	1																			1
April.....																				
May.....			1	1				1												1
June.....			3	1			1													1
July.....			2	1				1												1
August.....																				
September.....	1		3		1			1												1
October.....																				
November.....			1	1	3															1
December.....																				1
Totals.....	2	12	6	4	4	1	1	4	1						2	32	1			36

TABLE D.—Classification of non-fatal accidents inside and outside of mines

	Inside										Outside					Grand total	
	By Falls of										Total inside						
	Roof	Slate	By mine cars	By explosion of gas	Smothered by gas	By powder and dynamite	By blasts, etc.	Shafts	Slopes	Manways, breasts, etc.	Crushed at batteries	By mules	Suffocated by coal, etc.	Miscellaneous causes	Total inside		
January	6		4												4	1	10
February	1		1												2	1	3
March	1		1									1			2	1	3
April	1		1												2	1	3
May	1		1												2	1	3
June	1		1	2		5									8	1	9
July	2		1												3	1	4
August	1		1									1			2	1	3
September	4											1			5	1	6
October	4														4	1	5
November																1	1
December			1													1	1
Totals	34		13	3		5	8					2		7	73	11	84

TABLE E.—Occupations of persons killed or fatally injured inside and outside of mines

	Inside											Outside										
	Mine foremen	Assistant mine foremen	Fire bosses and assistants	Miners	Miners' laborers	Drivers and runners	Door-boys and helpers	Pumpmen	Company men	All other employes	Total inside	Superintendents	Foremen	Blacksmiths and carpenters	Engineers and firemen	Slate pickers (boys)	Slate pickers (men)	Book-keepers and clerks	All other employes	Total outside	Grand total	
January.				1		1			1	1	1				1					1	1	1
February.				1	1																1	4
March.				1		1																2
April.																						1
May.						1			1	1	1								1		1	4
June.				3	2																	5
July.				3	1																	4
August.																						1
September.				1																1	1	2
October.				1	3					1	1									1	1	4
November.				2	1																	3
December.				1	1		1				1											4
Totals.				13	10	3	1		2	3	22				1				55	4	36	



TABLE F.—Occupations of persons injured inside and outside of mines

	Inside										Outside											
	Mine foremen	Assistant mine foremen	Pit bosses and assistants	Miners	Miners' laborers	Drivers and runners	Door-boys and helpers	Pumpmen	Company men	All other employees	Total inside	Superintendents	Foremen	Blacksmiths and carpenters	Engineers and firemen	State pickers (boys)	State pickers (men)	Book-keepers and clerks	All other employees	Total outside	Grand total	
January, .....				20	1	1	1		1	1	24				1				1	1	26	50
February, .....				1	1	1					3										3	27
March, .....				1	1	1					3										3	30
April, .....				1	1	1					3										3	33
May, .....				1	1	1					3										3	36
June, .....				1	1	1					3										3	39
July, .....				1	1	1					3										3	42
August, .....				1	1	1					3										3	45
September, .....				1	1	1					3										3	48
October, .....				1	1	1					3										3	51
November, .....				1	1	1					3										3	54
December, .....				1	1	1					3										3	57
Totals, .....				21	22	5	2		7	8	55	1		1	1	1			8	11	66	121

TABLE G.—Nationality of Persons Killed or Fatally Injured Inside and Outside of Mines

	American	English	Welsh	Irish	German	Polish	Hungarian	Italian	Slavonian	Lithuanian	Swedish	Totals
January, .....	1											1
February, .....	2		2									4
March, .....									1	1		2
April, .....	1					1						3
May, .....	1	1	2					1		1		6
June, .....	1			1	1	1						4
July, .....						1						1
August, .....						1					1	2
September, .....				2		1	1	1	1			6
October, .....						1						1
November, .....						1						1
December, .....	4											4
Totals, .....	10	1	5	4	1	6	1	2	3	2	1	36

TABLE H.—Nationality of Persons Injured Inside and Outside of Mines

	American	English	Welsh	Irish	German	Polish	Italian	Slavonian	Lithuanian	Russian	Swedish	Totals
January, .....	4	2	1	1	1				1			10
February, .....				1		2						3
March, .....												2
April, .....		1	1	3		2			3	1		14
May, .....				2		4						8
June, .....			1	5		7	1					15
July, .....				3					1			5
August, .....							1					2
September, .....	1	1			1				1	1	1	6
October, .....				4		1	1					6
November, .....				1		2						3
December, .....				1		2	1	1				5
Totals, .....	20	4	2	21	2	20	4	1	6	2	1	84

TABLE I.—Operators and mines, kind of openings, type and size of fans, size of furnaces, volume of air produced by fan or furnace per minute, number of splits of air currents, number of persons employed inside, and quantity of air produced for each person per minute

Names of Operators and Mines	Kind of opening	Gaseous or non-gaseous	Method of ventilation	Diameter of fan in feet	Width of blades in feet	Depth of blades in feet	Number of revolutions per minute	Water gauge developed—inches	Name of fan	Power used	Number of splits of air currents	Number of cubic feet of air per minute entering the mine at inlet	Total quantity of air per minute splits in cubic feet	Number of cubic feet per minute passing out at outlet	Number of persons employed inside	Average number of cubic feet per minute provided for each person
D. L. and W. R. R. Co.																
Bellevue shaft, .....	Shaft.....	Gaseous, .....	Fan.....	(18	4.5	4.5	133	.9	Open running, .....	Steam..	13	222,790	178,150	352,000	528	331
Bellevue slope, .....	Slope.....	Non-gas, .....	Fan.....	(12	4.0	4.0	120	.9	Open running, .....	Steam..	2	46,120	48,750	49,100	61	799
Hyde Park, .....	Shaft.....	Gaseous, .....	Fan.....	(14	3.5	3.5	100	.5	Open running, .....	Steam..	10	90,050	128,280	131,900	290	311
Diamond, .....	Shaft.....	Gaseous, .....	Fan.....	(14	4.0	4.0	100	.7	Open running, .....	Steam..	9	198,784	208,934	219,000	240	871
Tripp, .....	Shaft.....	Gaseous, .....	Fan.....	(16	6.0	4.5	93	.7	Open running, .....	Steam..	6	90,338	81,902	102,920	286	286
Tripp slope, .....	Slope.....	Gaseous, .....	Fan.....	(14	4	4	106	.9	Open running, .....	Steam..	8	142,490	102,270	153,500	353	290
Tripp drift, .....	Drift.....	Non-gas, .....	Fan.....	(14	4	4	127	.9	Open running, .....	Steam..	9	147,120	124,600	131,900	369	338
East, .....	Shaft.....	Gaseous, .....	Fan.....	(12	3.5	4	138	.9	Open running, .....	Steam..	9	197,570	181,870	244,340	349	521
Cayuga, .....	Shaft.....	Gaseous, .....	Fan.....	(20	6.0	5.6	63	1.5	Open running, .....	Steam..						
Manville, .....	Shaft.....	Gaseous, .....	Fan.....	(20	6.0	5.6	76	1.5	Open running, .....	Steam..						
Scranton Coal Co.																
Pine Brook, .....	Shaft.....	Gaseous, .....	Fan.....	(17	4	4	75		Open running, .....	Steam..	8	127,000	110,000	145,000	232	472
Capouse, .....	Shaft.....	Gaseous, .....	Fan.....	(20	5.5	5.5	75	1	Open running, .....	Steam..	11	139,550	171,950	152,240	315	546
Mount Pleasant, .....	Shaft.....	Gaseous, .....	Fan.....	(18	5.0	5	75	1	Open running, .....	Steam..	4	54,000	51,000	52,000	124	411
West Ridge, .....	Slope.....	Gaseous, .....	Fan.....	(20	5	5	64	1.6	Open running, .....	Steam..						
Delaware and Hudson Co.																
Dickson, .....	Shaft.....	Gaseous, .....	Fan.....	(29	6	5	85	1.4	Open running, .....	Steam..	11	136,390	145,265	245,505	444	927
Von Storch, .....	Shaft.....	Gaseous, .....	Fan.....	(29	6	5	75	1.4	Gubal, .....	Steam..	9	152,500	155,140	163,290	412	377
				(20	4	4.5	84	1.4	Gubal, .....	Steam..						
				(22	5	5.0	81	2.2	Gubal, .....	Steam..						

\*Not in operation. Rebuilding breaker after fire.





Nay Aug Coal Co.	Lackawanna,.....	.....	T. H. Bray, .....	Scranton,.....	Erie
Nay Aug slope, .....	Lackawanna,.....	.....	T. H. Bray, .....	Scranton,.....	Erie
Nay Aug washery, .....	Lackawanna,.....	.....	.....	.....	.....
Bull's Head Coal Co.	Lackawanna,.....	.....	Jonathan Vipoud, .....	Scranton,.....	No railroad
Bull's Head slope, .....	.....	.....	.....	.....	.....
Gibbons, .....	Lackawanna,.....	I. J. Gibbons, .....	Dunmore,.....	Dunmore,.....	No railroad
Mountain Lake Coal Co.	Lackawanna,.....	M. J. Ruddy, .....	Scranton,.....	Scranton,.....	No railroad
Mountain Lake drift, .....	.....	.....	.....	.....	.....





Delaware and Hudson Co.		202,747	7,802	4,569	214,909	228	580	2	3	13,354	12,407	52
Dickson, .....	Lackawanna, .....	231,288	46,292	3,671	281,221	245	639	2	2	11,293	11,459	66
Von Storch, .....	Lackawanna, .....											
Totals, .....		434,015	51,094	8,031	446,140	237	1,279	4	5	24,647	23,866	118
People's Coal Co.												
Oxford, .....	Lackawanna, .....	259,353	21,846	104,752	385,951	300	542	9	14	12,475	5,150	129
Pennsylvania Coal Co.												
No. 5 shaft, .....	Lackawanna, .....	194,641	2,190	5,228	202,059	198	476	3	4	9,306	3,520	67
Green Ridge Coal Co.												
Green Ridge slope, .....	Lackawanna, .....	95,410	9,922	35,471	140,802	209	396	3		7,076	3,950	46
A. D. and F. M. Spencer												
Spencer, .....	Lackawanna, .....	58,680	6,000		64,680	92	247		3	1,900	4,750	36
Economy Light, Heat and Power Co.												
Economy washery, .....	Lackawanna, .....	52,970	1,529	84	54,583	208	22					1
Nay Aug Coal Co.												
Nay Aug slope, .....	Lackawanna, .....	18,764	2,145	109	21,018	82	32		2	425	2,225	10
Nay Aug washery, .....	Lackawanna, .....	27,312			27,312	116	38					
Totals, .....		46,076	2,145	109	48,330	82	70		2	425	2,225	10
Bull's Head Coal Co.												
Bull's Head slope, .....	Lackawanna, .....	7,325	1,500	10,068	18,893	115	55		1	800	50	15
J. J. Gibbons												
Gibbons, .....	Lackawanna, .....		240	10,800	11,040	240	27			600		4
Mountain Lake Coal Co.												
Mountain Lake drift, .....	Lackawanna, .....	1,810	100	1,630	3,540	180	18			208		5
Grand totals, .....		3,889,676	244,314	246,334	4,380,324	188	9,720	35	84	161,175	111,680	1,085

TABLE 2.—Recapitulation

Delaware, Lackawanna and Western R. R. Co.		1,799,301	91,248	51,640	1,942,189	240	4,469	13	33	75,694	47,644	411
Seranton Coal Co., .....		940,095	53,500	18,321	1,012,116	149	2,419	4	22	28,044	20,535	243
Delaware and Hudson Co., .....		434,015	54,094	8,031	496,140	237	1,279	4	5	24,647	23,866	118
Miscellaneous companies, .....		716,265	45,472	168,142	929,879	177	1,853	15	24	32,790	19,645	313
Totals, .....		3,889,676	244,314	246,334	4,380,324	188	9,720	35	84	161,175	111,680	1,085

TABLE 2.—Continued

Names of Operators	County	Number of Boilers			Locomotives			Total horse power	Number of steam engines of all classes	Total horse power	Number of pumps delivering water to surface	Capacity in gallons per minute	Quantity delivered to surface per minute, gallons	Number of electric dynamos	Number of air compressors
		Cylindrical	Tubular	Horse power	Steam	Air	Electric								
Delaware, Lackawanna, and Western		786	17	3,100	5,886	7	13	8	7,051	75	13,129	11,096	3	3	1
Re. R. Co.		12	24	3,375	3,505	2	10	10	5,232	13	12,105	10,732	3	3	1
Shawmut Coal Company		10	1	3,000	3,000	5	10	10	8,771	13	2,600	2,750	1	1	1
Peoples Coal Company		1,276	1	1,500	1,500	1	1	1	492	1	784	252	1	1	1
Pennsylvania Coal Company		450	1	450	450	1	1	1	1,332	1	450	390	1	1	1
Great Ridge Coal Company		275	1	275	275	1	1	1	1,306	1	450	390	1	1	1
A. D. and F. M. Sheep		189	1	189	189	1	1	1	718	1	450	390	1	1	1
Economy Light, Heat and Power Co.		72	1	72	72	1	1	1	76	1	450	390	1	1	1
N. Y. and C. Coal Company		50	1	50	50	1	1	1	76	1	450	390	1	1	1
Bull's Head Coal Company		1	1	12	12	1	1	1	30	1	450	390	1	1	1
J. J. Gibbons		72	56	10,223	16,045	10	63	263	18,165	57	37,578	25,870	12	12	5
Mountain Lakes Coal Company		5,841	56	10,223	16,045	10	63	263	18,165	57	37,578	25,870	12	12	5
Totals		72	56	10,223	16,045	10	63	263	18,165	57	37,578	25,870	12	12	5

Lackawanna

TABLE 3.—Number of each class of employees inside and outside of mines

Names of Operators and Collieries	County	Inside										Outside										Grand totals inside and outside
		Mine foremen	Assistant mine foremen	Free bosses and assistants	Mine	Mine laborers	Trivlers and runners	Far boys and helpers	Pumpmen	Company men	All other employees	Total inside	Superintendents	Foremen	Blacksmiths and carpenters	Wheelwrights and firemen	State police (boys)	State police (men)	Boat-keepers and clerks	All other employees	Total outside	
Delaware, Lackawanna and Western R. R. Co.	Lackawanna.	1	1	1	288	247	81	29	8	19	18	689	...	1	1	6	10	70	11	4	78	180
		1	1	1	172	164	64	13	6	79	72	483	...	1	1	4	9	42	11	4	61	103
		1	1	1	296	216	78	6	4	46	42	688	...	1	1	10	18	63	14	7	107	135
		1	1	1	136	186	73	29	4	4	82	312	...	1	1	9	9	40	6	3	57	107
		1	1	1	186	181	58	26	1	88	10	364	...	1	1	10	10	36	8	3	67	127
		1	1	1	130	130	72	15	1	23	10	317	...	1	1	8	11	45	4	43	112	167
		16	2	26	1,007	1,002	429	109	21	266	192	3,253	...	6	37	70	397	53	14	293	889	4,142
Diamond washery.	Lackawanna.	1	...	...	1	...	...	...	1	...	3	1	1	1	3	...	...	...	...	25	32	34
		11	2	26	1,057	1,052	429	109	21	317	192	3,256	1	7	38	73	397	53	16	418	913	4,169
Scranton Coal Co.	Lackawanna.	1	1	1	186	190	133	16	6	...	60	592	1	1	11	16	51	62	...	62	261	793
		1	1	1	125	142	88	7	4	...	98	469	1	1	1	11	56	13	3	90	174	432
		1	1	1	146	150	79	29	6	...	75	481	1	1	3	11	47	14	3	50	132	613
		1	1	1	55	50	29	5	3	...	36	172	1	1	1	4	19	15	1	20	63	237
		4	3	13	566	532	329	48	19	...	269	1,714	4	4	31	38	173	123	8	193	572	2,286

TABLE 3.—Continued

Names of Operators and Collieries	County	Inside										Outside										Grand totals inside and outside
		Mine foremen	Assistant mine foremen	Fire bosses and assistants	Miners	Miners' laborers	Drivers and runners	Door boys and helpers	Pumpmen	Company men	All other employees	Total inside	Superintendents	Foremen	Blacksmiths and carpenters	Engineers and firemen	State pickers (boys)	State pickers (men)	Book-keepers and clerks	All other employees	Total outside	
Caprose washery, .....	Lackawanna,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	1	2	7	7	.....	.....	.....	53	71
Mount Pleasant washery, .....	Lackawanna,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	1	2	5	4	1	.....	.....	48	62
Totals, .....		4	3	12	555	532	320	48	19	.....	269	1,714	6	6	35	48	184	124	8	294	705	2,419
Delaware and Hudson Co.	Lackawanna,	1	2	5	149	149	75	39	2	58	14	474	.....	1	3	12	28	10	2	50	108	580
Dickson, .....	Lackawanna,	1	1	6	183	183	81	20	.....	88	.....	563	.....	1	1	15	17	8	30	2	62	136
Van Storch, .....	Lackawanna,	2	3	11	332	332	156	39	2	146	14	1,637	1	2	18	29	36	40	4	112	242	1,979
Totals, .....		1	1	2	149	153	69	19	2	28	20	595	1	1	16	8	45	.....	6	70	147	542
People's Coal Co.	Lackawanna,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Oxford, .....	Lackawanna,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Pennsylvania Coal Co.	Lackawanna,	1	.....	1	150	150	63	6	1	4	22	398	.....	1	4	5	31	14	1	22	78	476
No. 5 shaft, .....		2	.....	2	105	105	53	9	2	11	17	306	1	1	8	12	12	2	3	51	90	396
Green Ridge Coal Co.	Lackawanna,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Green Ridge slope, .....		1	1	1	41	48	28	2	1	16	11	150	1	3	8	9	28	8	1	39	97	247
A. D. and F. M. Spencer	Lackawanna,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Spencer, .....		.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....



Economy Light, Heat and Power Co.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248	249	250	251	252	253	254	255	256	257	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	280	281	282	283	284	285	286	287	288	289	290	291	292	293	294	295	296	297	298	299	300	301	302	303	304	305	306	307	308	309	310	311	312	313	314	315	316	317	318	319	320	321	322	323	324	325	326	327	328	329	330	331	332	333	334	335	336	337	338	339	340	341	342	343	344	345	346	347	348	349	350	351	352	353	354	355	356	357	358	359	360	361	362	363	364	365	366	367	368	369	370	371	372	373	374	375	376	377	378	379	380	381	382	383	384	385	386	387	388	389	390	391	392	393	394	395	396	397	398	399	400	401	402	403	404	405	406	407	408	409	410	411	412	413	414	415	416	417	418	419	420	421	422	423	424	425	426	427	428	429	430	431	432	433	434	435	436	437	438	439	440	441	442	443	444	445	446	447	448	449	450	451	452	453	454	455	456	457	458	459	460	461	462	463	464	465	466	467	468	469	470	471	472	473	474	475	476	477	478	479	480	481	482	483	484	485	486	487	488	489	490	491	492	493	494	495	496	497	498	499	500	501	502	503	504	505	506	507	508	509	510	511	512	513	514	515	516	517	518	519	520	521	522	523	524	525	526	527	528	529	530	531	532	533	534	535	536	537	538	539	540	541	542	543	544	545	546	547	548	549	550	551	552	553	554	555	556	557	558	559	560	561	562	563	564	565	566	567	568	569	570	571	572	573	574	575	576	577	578	579	580	581	582	583	584	585	586	587	588	589	590	591	592	593	594	595	596	597	598	599	600	601	602	603	604	605	606	607	608	609	610	611	612	613	614	615	616	617	618	619	620	621	622	623	624	625	626	627	628	629	630	631	632	633	634	635	636	637	638	639	640	641	642	643	644	645	646	647	648	649	650	651	652	653	654	655	656	657	658	659	660	661	662	663	664	665	666	667	668	669	670	671	672	673	674	675	676	677	678	679	680	681	682	683	684	685	686	687	688	689	690	691	692	693	694	695	696	697	698	699	700	701	702	703	704	705	706	707	708	709	710	711	712	713	714	715	716	717	718	719	720	721	722	723	724	725	726	727	728	729	730	731	732	733	734	735	736	737	738	739	740	741	742	743	744	745	746	747	748	749	750	751	752	753	754	755	756	757	758	759	760	761	762	763	764	765	766	767	768	769	770	771	772	773	774	775	776	777	778	779	780	781	782	783	784	785	786	787	788	789	790	791	792	793	794	795	796	797	798	799	800	801	802	803	804	805	806	807	808	809	810	811	812	813	814	815	816	817	818	819	820	821	822	823	824	825	826	827	828	829	830	831	832	833	834	835	836	837	838	839	840	841	842	843	844	845	846	847	848	849	850	851	852	853	854	855	856	857	858	859	860	861	862	863	864	865	866	867	868	869	870	871	872	873	874	875	876	877	878	879	880	881	882	883	884	885	886	887	888	889	890	891	892	893	894	895	896	897	898	899	900	901	902	903	904	905	906	907	908	909	910	911	912	913	914	915	916	917	918	919	920	921	922	923	924	925	926	927	928	929	930	931	932	933	934	935	936	937	938	939	940	941	942	943	944	945	946	947	948	949	950	951	952	953	954	955	956	957	958	959	960	961	962	963	964	965	966	967	968	969	970	971	972	973	974	975	976	977	978	979	980	981	982	983	984	985	986	987	988	989	990	991	992	993	994	995	996	997	998	999	1000	1001	1002	1003	1004	1005	1006	1007	1008	1009	1010	1011	1012	1013	1014	1015	1016	1017	1018	1019	1020	1021	1022	1023	1024	1025	1026	1027	1028	1029	1030	1031	1032	1033	1034	1035	1036	1037	1038	1039	1040	1041	1042	1043	1044	1045	1046	1047	1048	1049	1050	1051	1052	1053	1054	1055	1056	1057	1058	1059	1060	1061	1062	1063	1064	1065	1066	1067	1068	1069	1070	1071	1072	1073	1074	1075	1076	1077	1078	1079	1080	1081	1082	1083	1084	1085	1086	1087	1088	1089	1090	1091	1092	1093	1094	1095	1096	1097	1098	1099	1100	1101	1102	1103	1104	1105	1106	1107	1108	1109	1110	1111	1112	1113	1114	1115	1116	1117	1118	1119	1120	1121	1122	1123	1124	1125	1126	1127	1128	1129	1130	1131	1132	1133	1134	1135	1136	1137	1138	1139	1140	1141	1142	1143	1144	1145	1146	1147	1148	1149	1150	1151	1152	1153	1154	1155	1156	1157	1158	1159	1160	1161	1162	1163	1164	1165	1166	1167	1168	1169	1170	1171	1172	1173	1174	1175	1176	1177	1178	1179	1180	1181	1182	1183	1184	1185	1186	1187	1188	1189	1190	1191	1192	1193	1194	1195	1196	1197	1198	1199	1200	1201	1202	1203	1204	1205	1206	1207	1208	1209	1210	1211	1212	1213	1214	1215	1216	1217	1218	1219	1220	122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TABLE 4.—Fatal accidents inside and outside of mines

Date of accident	Name of Person	Nationality	Occupation	Age	Married or single	Number of widows	Number of orphans	Name of Mine	County	Nature and Cause of Accident in Brief
Jan. 8	John Norton, .....	American, ..	Footman, ..	22	S.	.....	.....	Oxford, .....	Lackawanna, ..	Norton with others was working in the sump, when the cage descended on them. He died February 1 <sup>st</sup> .
Feb. 1	Daniel Reese, .....	Welsh, .....	Miner, .....	44	M.	1	.....	Brishlin, .....	Lackawanna, ..	Instantly killed by a fall of roof at face of chamber in the rock vein.
5	David Jones, .....	American, ..	Driver, ....	18	S.	.....	.....	Hyde Park, .....	Lackawanna, ..	Crushed between cars and mule or w. of. He died from his injuries the following day.
10	Michael Foley, .....	American, ..	Fireman, ..	37	M.	1	2	Cayuga, .....	Lackawanna, ..	Scalded by steam generated by hot ashes coming in contact with cold water. He died the same day. Outside.
21	John Griffiths, .....	Welsh, .....	Company man, ..	59	M.	1	.....	Hyde Park, .....	Lackawanna, ..	Fatally injured by cars inside. He died the same day.
March 12	Martin Zauldo, .....	Lithuanian, ..	Miner, .....	28	S.	.....	.....	Mount Pleasant, ..	Lackawanna, ..	Killed by a fall of roof.
30	John Lucas, .....	Lithuanian, ..	Miner, .....	43	M.	1	5	Green Ridge slope, ..	Lackawanna, ..	Fatally injured by a fall of top coal. He died the following day.
April 8	Charles Heeter, .....	American, ..	Driver, ....	16	S.	.....	.....	Cayuga, .....	Lackawanna, ..	Fatally injured by flying coal from blast He died April 13.
May 6	William Hopkins, .....	Welsh, .....	Company man, ..	69	S.	.....	.....	Von Storch slope, ..	Lackawanna, ..	Instantly killed by mine cars inside.
6	Mike Antonio, .....	Lithuanian, ..	Chute man, ..	17	S.	.....	.....	Capouse, .....	Lackawanna, ..	Coroner's jury rendered the following verdict in this case: "Accidentally killed by passing through breaker machinery. Outside."
6	Thomas Thomas, .....	Welsh, .....	Miner, .....	42	M.	1	3	Cayuga, .....	Lackawanna, ..	Instantly killed by a fall of roof.
28	Daniel Thomas, .....	Welsh, .....	Motor brake man, ..	25	S.	.....	.....	Brishlin, .....	Lackawanna, ..	Killed by an electric motor inside. The following verdict was rendered by the coroner's jury: "Killed by an unavoidable accident."
June 9	Casper Elliland, .....	German, ..	Miner, ....	58	M.	1	.....	Capouse, .....	Lackawanna, ..	Killed by a falling "bell" in the Diamond
9	James Malla, .....	American, ..	Laborer, ....	30	M.	1	2	Tripp Sinking, ...	Lackawanna, ..	Killed by a piece of rock falling on him, fracturing his skull.
29	Caunis Moonie, .....	Italian, ....	Driver, ....	21	S.	.....	.....	Va. No. 5 shaft, ..	Lackawanna, ..	Caught under mine cars and fatally injured.



7	Isaac Johnson, .....	American,	Laborer, ... 35	S	Oxford, .....	Lackawanna, ..	{ The coroner's jury rendered the follow- ing verdict: "They came to their death by an explosion of gas in Dunmore No. 2 vein in the Oxford shaft. From the evidence we find that the explosion was purely accidental," Fatally injured by mine cars inside.
7	Milton White, .....	American,	Laborer, ... 18	S	Oxford, .....	Lackawanna, ..	
15	William Hilbert, .....	American,	Door tender, 71	M	Penna. No. 5 shaft,	Lackawanna, ..	
				1			

TABLE 5.—Non-fatal accidents inside and outside of mines

Date of accident	Name of Person	Nationality	Occupation	Age	Married or single	Name of Mine	County	Nature and Cause of Accident in Brief
Jan. 1	David Jones, .....	Welsh, .....	Miner, .....	42 M.		Bellevue shaft, .....	Lackawanna,	Ankle, bone fractured by mine cars.
4	Patrick Timlin, .....	Irish, .....	Miner, .....	47 M.		Cayuga, .....	Lackawanna,	Outside. Leg injured by falling on floor of engine house.
7	Ludwig Ellis, .....	German, .....	Fireman, .....	40 M.		Mt. Pleasant washery, .....	Lackawanna,	Outside. Scalded by escaping steam. They were in the dump when the engine was lowered.
8	John O'Neill, .....	American, .....	Footman, .....	25 S.		Oxford, .....	Lackawanna,	Face cut by moving mine cars.
25	Thomas H. Wells, .....	English, .....	Footman, .....	59 M.		Hyde Park, .....	Lackawanna,	Leg fractured by cars inside.
26	William Varion, .....	American, .....	Boor boy, .....	16 S.		Cayuga, .....	Lackawanna,	Leg bruised by falling roof rock.
28	Arthur Hobbs, .....	English, .....	Laborer, .....	19 S.		Hyde Park, .....	Lackawanna,	Head injured by a fall of rock at face of chamber.
28	Thomas J. Matthews, .....	Lithuanian, .....	Miner, .....	49 M.		Manville, .....	Lackawanna,	Head and side injured by runaway mine cars.
30	Thomas Shepherd, .....	American, .....	Trackman, .....	46 M.		Bellevue shaft, .....	Lackawanna,	Two ribs fractured by cars inside.
5	John Campbell, .....	Irish, .....	Miner, .....	52 M.		Capouse, .....	Lackawanna,	Leg slightly injured by a fall of roof.
17	Charles Polesky, .....	Polish, .....	Laborer, .....	31 M.		Full's Head, .....	Lackawanna,	Hand fractured while straightening a car.
17	John Stanisley, .....	Polish, .....	Laborer, .....	18 S.		Mount Pleasant, .....	Lackawanna,	Hand injured by a piece of falling roof rock.
18	William Stevens, .....	American, .....	Miner, .....	35 S.		Say Aug slope, .....	Lackawanna,	Leg under mine cars. Outside.
18	Stanley Brink, .....	American, .....	Laborer, .....	15 S.		Spencer, .....	Lackawanna,	Leg fractured by falling roof rock.
31	Thomas Parry, .....	American, .....	Laborer, .....	25 M.		Spencer No. 1, .....	Lackawanna,	Compound fracture of leg, caused by mine cars inside.
31	John Healey, .....	American, .....	Laborer, .....	17 S.		Cayuga, .....	Lackawanna,	Side and back injured by a fall of rock.
April 11	Charles Blayoniz, .....	Polish, .....	Miner, .....	31 M.		West Ridge slope, .....	Lackawanna,	Leg fractured and otherwise injured by a fall of rock.
11	Martin Kappel, .....	Lithuanian, .....	Miner, .....	29 M.		Mount Pleasant, .....	Lackawanna,	Collar bone fractured by cars inside.
13	John E. Jones, .....	American, .....	Miner, .....	46 M.		Bellevue shaft, .....	Lackawanna,	Shoulder dislocated by a piece of falling rock.
13	Joseph Langan, .....	Irish, .....	Miner, .....	22 S.		Bellevue shaft, .....	Lackawanna,	Foot injured by falling under mine cars.
15	John Kullen, .....	Irish, .....	Laborer, .....	26 S.		Capouse, .....	Lackawanna,	Outside.
18	Adolp. Carnel, .....	Lithuanian, .....	Laborer, .....	22 S.		Dickson, .....	Lackawanna,	Struck by flying coal from blast.
18	Stanley Bennett, .....	Lithuanian, .....	Company man, .....	33 M.		Erskin, .....	Lackawanna,	Two ribs fractured by mine cars.



18	Joseph D. Casey,	Irish,	Company man,	42	M.	West Ridge slope,	Lackawanna,	Hip injured by flying coal from a blast.
19	Abraham Young,	English,	Motorman,	22	S.	Brislin,	Lackawanna,	Hand and face burned by electricity.
20	John Gurry,	Welsh,	Carpenter,	37	M.	Diamond,	Lackawanna,	Sidewind and fell, fracturing a leg.
21	William H. Williams,	Welsh,	Driver,	19	S.	West Ridge slope,	Lackawanna,	Struck by a mule.
22	William Cassike,	Russian,	Miner,	31	M.	Mount Pleasant,	Lackawanna,	Both men were injured by the same fall
23	John Fownskite,	Polish,	Laborer,	34	M.	Mount Pleasant,	Lackawanna,	of roof rock at face of chamber in Five
24	Richard Gaffney,	American,	Slate picker,	15	S.	Von Storch,	Lackawanna,	"foot" vein.
5	Peter Dets,	Polish,	Miner,	37	M.	Bellevue shaft,	Lackawanna,	Thrown from a mule's back under moving
6	Frank Novozosky,	Polish,	Laborer,	35	M.	Cypouse,	Lackawanna,	cars.
13	Andrew Szabal,	Polish,	Miner,	27	M.	Mount Pleasant,	Lackawanna,	Struck by flying coal from his own blast.
14	Leon Waustuff,	American,	Oiler,	17	S.	Oxford,	Lackawanna,	Ankle bruised by falling roof rock.
18	Charles Robertson,	Irish,	Miner,	50	M.	Oxford,	Lackawanna,	Injured by flying coal from his own blast.
18	Constantine Milken,	Polish,	Laborer,	40	M.	Tripp slope,	Lackawanna,	Arm amputated in machinery outside.
21	Thomas Gilboy,	Irish,	Trackman,	42	M.	Bellevue shaft,	Lackawanna,	Arm and head cut by flying coal from
31	J. J. Greening,	American,	Miner,	45	M.	Oxford,	Lackawanna,	blast.
1	James Lawless,	Irish,	Miner,	55	M.	Oxford,	Lackawanna,	Leg and collarbone broken by cars.
7	Thomas Gallahan,	American,	Laborer,	24	M.	Hyde Park,	Lackawanna,	Leg lacerated by falling roof rock.
10	Edi Morgan,	Welsh,	Miner,	26	M.	Tripp drift,	Lackawanna,	Both legs fractured while helping a neigh-
14	Topi Augusta,	Italian,	Miner,	30	S.	Oxford,	Lackawanna,	bour to fall roof rock.
16	Martin Hoffchask,	Polish,	Laborer,	22	M.	Penna. No. 5 shaft,	Lackawanna,	Injured by flying coal from a premature
16	Patrick Walsh,	Irish,	Laborer,	26	S.	Penna. No. 5 shaft,	Lackawanna,	blast.
21	Michael Lynott,	Irish,	Miner,	38	M.	Hyde Park,	Lackawanna,	Arm and leg broken by falling roof rock
21	Joseph Aukers,	American,	Miner,	38	S.	Brislin,	Lackawanna,	at face of chamber.
27	Mike Shenbensky,	Polish,	Laborer,	30	S.		Lackawanna,	Leg fractured by a falling collar.
28	Leopold Brezicker,	Polish,	Miner,	47	M.	Manville,	Lackawanna,	Was in the act of putting.
28	Jos. Seraskite,	Polish,	Laborer,	35	S.	Oxford,	Lackawanna,	Leg fractured by falling roof rock.
28	Steve Belenskie,	Polish,	Laborer,	30	S.	Oxford,	Lackawanna,	Knee wrenched by cars.
28	Anthony Pousherthy,	Irish,	Miner,	35	M.	Oxford,	Lackawanna,	Slightly injured by an explosion of gas.
28	Mike Kane,	Irish,	Laborer,	45	M.	Oxford,	Lackawanna,	Foot crushed by falling roof rock.
28	Adam Tobins,	American,	Company man,	24	M.	Mount Pleasant,	Lackawanna,	Leg fractured by a piece of rock from the
30	John Zawasa,	Polish,	Miner,	27	S.	Oxford,	Lackawanna,	sub piling.
30	Mike Grush,	Polish,	Laborer,	27	S.	Cayuga,	Lackawanna,	Back seriously injured by falling roof rock.
31	Felix Prochup,	Lithuanian,	Laborer,	60	M.	Oxford,	Lackawanna,	These men were injured more or less by
1	Bryan Duffy,	Irish,	Oiler,				Lackawanna,	the explosion of a powder keg.
18	John Larkin,	Irish,	Motor man,	28	M.	Spencer,	Lackawanna,	Slightly injured by an explosion of gas.
26	Patrick Corish,	Irish,	Miner,	42	M.	V'n Storch,	Lackawanna,	Leg fractured by falling roof rock.
20	Andrew Helfron,	American,	Fore man,	22	S.	Hyde Park,	Lackawanna,	The victim accidentally fell and broke his
1	Joseph Kelly,	American,	Brakeman,	17	S.	Diamond,	Lackawanna,	leg.
10	Richard Jenkins,	American,	Runner,	19	S.	Tripp slope,	Lackawanna,	Two fingers amputated by falling on a
15	Paulan Pannell,	Italian,	Laborer,	33	S.	Say Aug slope,	Lackawanna,	pul.
1	John Prokofsky,	Russian,	Laborer,	22	S.	Dickson,	Lackawanna,	Seriously injured by a fall of roof rock.
								Leg bruised between the bumpers of mine
								cars.
								Leg fractured by mine cars outside.
								Arm fractured, knocked by a mule.
								Leg fractured by fall of roof
								Arm broken when the victim was in a de-
								scending cage in shaft.

May

June

July

Aug.

Sept.



TABLE 5.—Continued

Date of accident	Name of Person	Nationality	Occupation	Age	Married or single	Name of Mine	County	Nature and Cause of Accident in Brief
Sept.	1 William Becker, .....	German, .....	Miner, .....	29	M.	Manville, .....	Lackawanna,	Leg fractured by falling roof rock.
13	William Delpey, .....	English, .....	Miner, .....	31	M.	Capouse, .....	Lackawanna,	Slightly injured by a fall of roof.
29	Andrew Hekesh, .....	Swedish, .....	Laborer, .....	39	M.	Capouse, .....	Lackawanna,	Severely injured by a fall of roof in Diamond vein.
28	Frank Znanewski, .....	Lithuanian, .....	Laborer, .....	33	M.	Gayuga, .....	Lackawanna,	Severely injured by a fall of roof in the "Pine Foot" vein.
30	William Bradley, .....	American, .....	Miner, .....	25	M.	Oxford, .....	Lackawanna,	Leg fractured by falling top coal.
Oct. 6	J. E. May, .....	Italian, .....	Loader, .....	48	M.	West Ridge, .....	Lackawanna,	Two ribs fractured by railroad cars. Outside.
15	Geo. Jackson, .....	Irish, .....	Miner, .....	28	M.	Bellevue shaft, .....	Lackawanna,	Rib broken and body bruised by flying coal from blast.
20	Andrew Ovcaviz, .....	Polish, .....	Miner, .....	24	S.	Mount Pleasant, .....	Lackawanna,	Leg amputated by a fall of roof in "Three Foot" vein.
28	Dominic Evans, .....	Irish, .....	Miner, .....	59	M.	Gayuga, .....	Lackawanna,	Three fingers amputated by falling roof rock.
31	Michael Kelly, .....	Irish, .....	Rockman, .....	39	M.	Pine Brook, .....	Lackawanna,	Right leg was amputated, and Heenan injured by a fall of rock on a contract job.
Nov. 31	George Heenan, .....	Irish, .....	Rockman, .....	29	M.	Pine Brook, .....	Lackawanna,	Leg fractured by a fall of rock at face of chamber.
4	Joseph Guinkinez, .....	Polish, .....	Miner, .....	41	M.	Mount Pleasant, .....	Lackawanna,	Leg fractured by a fall of roof at face of chamber.
19	Patrick Hamnor, .....	Irish, .....	Trackman, .....	69	M.	Pine Brook, .....	Lackawanna,	Four ribs fractured by runaway cars. Outside.
21	William Gouse, .....	Polish, .....	Laborer, .....	40	M.	Diamond, .....	Lackawanna,	Leg fractured by a fall of roof rock.
Dec. 5	George Mennick, .....	Polish, .....	Miner, .....	23	S.	Bellevue shaft, .....	Lackawanna,	Hand burned by a premature blast.
6	James Dougherty, .....	Irish, .....	Runner, .....	23	S.	Penna. No. 5 shaft, .....	Lackawanna,	Wrist broken by mine cars.
17	William Hoodick, .....	Slavonian, .....	Laborer, .....	43	M.	Brisbin, .....	Lackawanna,	Head out and body squeezed by falling roof rock.
19	Andrew Senkavitch, .....	Polish, .....	Miner, .....	30	S.	Dickson, .....	Lackawanna,	Seriously injured by falling roof in a cross cut.
19	Toney Murreh, .....	Italian, .....	Laborer, .....	30	S.	Diamond washery, .....	Lackawanna,	Leg fractured by falling culm from dump outside.

## CONDITION OF COLLIERIES

The condition of the mines as to the ventilation, is satisfactory and will compare favorably with their condition at any time in the past. Table I will show the actual quantity of air in circulation in each of the mines. Fewer complaints have been heard on ventilation and distribution during the past year than usual. Whenever any local section of the workings of any mine is found to be inadequately ventilated, the attention of the officials is called to it, and almost without exception steps are immediately taken to remedy the defect.

## Drainage

The drainage of the mine workings is good, except in spring and autumn when the workings of the surface veins receive water from the surface. The beds of these veins have been rendered very irregular on account of some of the lower larger veins having been worked out and caved in in many instances. When it is said that the drainage of these workings is not good, it would be proper to say that the water which is constantly dropping from the roof causes more inconvenience than that which lodges in the irregularities, or swamps in the bed of the vein; and further, it is more difficult to remove the trouble.

## IMPROVEMENTS

During the year the following improvements were made in the mines of the district:

## DELAWARE, LACKAWANNA AND WESTERN RAILROAD COMPANY

Tripp Shaft.—This shaft has been widened from 10 to 12 feet, from the surface to the Clark vein. From the Clark it has been sunk through the three Dunmore veins, a depth of one hundred and eighty-seven feet. The shaft has been concreted, and re-timbered from top to bottom, with a new tower erected over it. The work is of the most substantial kind.

Tripp Drift.—From the workings of this drift a rock plane has been driven a distance of three hundred feet, into the "Eight Foot" bed above. A shaft has been sunk from the workings of the "Eight Foot," a depth of ninety feet into the workings of the vein next below.

Tripp Slope.—The rope haulage system in this mine has been extended one thousand feet.

New Vein.—The New County vein is now being opened up from the Diamond and Supply shafts of the Diamond colliery.

Cayuga.—A new Duplex pump, 28x12x36, has been installed in the "Fourteen Foot" vein, and is now in operation.

Bellevue Shaft, etc.—The main shaft (12x18 feet) has been sunk from the Clark vein, a distance of one hundred and thirty-seven feet into the Dunmore No. 2 vein.

The Oxford inside slope has been driven a distance of eighty-eight feet, from the New County vein into the Clark vein. A tunnel has been driven from the Clark into the Big Vein, height sixty-five feet.

Electric Haulage.—An electric haulage system one thousand feet long has been installed in Dunmore No. 2 vein.

The following extensions were made to haulage systems in use before 1904, namely: G. gangway No. 3 tunnel, 900 feet; No. 2 slope, Dunmore No. 2, 1,100 feet; M. gangway and Sloan road, 4,350 feet; No. 1 County vein, 1,000 feet.

Shaft Concreted.—The cribbing in the supply shaft has been replaced by concrete.

New Electric Motors and Pumps.—Four new electric motors have been added during the year, making a total of eight in the mine. A new electric pump has also been installed at the foot of the supply shaft, and two other and similar pumps at other points in the same mine.

#### PENNSYLVANIA COAL COMPANY

No. 5 Shaft.—A rock plane was driven from No. 3 Dunmore to No. 1 Dunmore vein. Length 330 feet; section 7x14 feet. Also a new car and blacksmith shop was built outside; dimensions 30x60 feet.

A number of the other operators have made similar improvements during the year, but have not thought it proper to report the particulars to appear in this report.

#### Mine Foremen's Examinations

The annual examinations for candidates for certificates as mine foremen and assistant mine foremen were held June 10 and 11, in the City Hall, Scranton. The following persons were recommended for certificates:

Mine Foremen.—W. W. Inglis, Thomas Barber, Lucien F. Hiorns, Frank E. Shedd, William Campbell, Henry Davies, H. D. Powell, William P. Kelly, Henry J. Williams, William P. Jennings, Martin F. Sheridan, John Moore, George W. Oswald, Isaac Dawe, John H. Watkins, Henry H. Hitchings, Thos. J. Williams, Jos. Morris, James J. Cusick, Thos. W. Watkins, James Tibbs, Peter Comtesse, Jr., Thomas Malloy, Jos. R. Burns.

Assistant Mine Foremen.—Edward Dempsey, David James, James Cooney, Martin Quinn, James D. Robinson, John J. James, Martin Corcoran, John J. McDermott, Wm. Morgan, Anthony Gallagher, Jno. E. Phillips, Fred. E. Carpenter, Benjamin Evans.

## Fourth District

LACKAWANNA AND LUZERNE COUNTIES

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Scranton, Pa., February 10, 1905.

Hon. James E. Roderick, Chief of Department of Mines:

Sir: I have the honor of herewith presenting my report as Inspector of Mines for the Fourth Anthracite District, for the year ending December 31, 1904.

In addition to the tabulated statistics, I send herewith a statement of the condition of the mines, and the improvements made during the year.

Respectfully submitted,

D. T. WILLIAMS,  
Inspector.

## SUMMARY OF STATISTICS

Number of collieries, .....	19
Number of mines, .....	39
Number of mines in operation, .....	39
Number of tons of coal shipped to market, .....	5,009,457
Number of tons used at mines for steam and heat, .....	223,028
Number of tons sold to local trade and used by employes, ..	61,767
Number of tons of coal produced, .....	5,294,252
Number of persons employed inside of mines, .....	8,336
Number of persons employed outside, .....	3,005
Number of fatal accidents inside of mines, .....	32
Number of fatal accidents outside, .....	2
Number of non-fatal accidents inside of mines, ... ..	62
Number of non-fatal accidents outside, .....	9
Number of tons of coal produced per fatal accident inside, ..	165,445
Number of persons employed per fatal accident inside, ..	260
Number of persons employed per fatal accident outside, ..	1,503
Number of persons employed per non-fatal accident inside, ..	134
Number of persons employed per non-fatal accident outside, ..	334
Number of wives made widows by fatal accidents, .....	17
Number of children orphaned by fatal accidents, .....	36
Number of steam locomotives used inside of mines, .....	5
Number of steam locomotives used outside, .....	14
Number of electric motors used inside, .....	10
Number of fans used for ventilation, .....	29
Number of furnaces used for ventilation, .....	3
Number of gaseous mines in operation, .....	23
Number of non-gaseous mines in operation, .....	16
Number of new mines opened, .....	1



## TABLE A

## PRODUCTION OF COAL

Names of Operators	Tons
Delaware, Lackawanna and Western Railroad Company,	3,294,595
Lehigh Valley Coal Company, .....	569,927
Jermyn and Company, .....	347,969
Pennsylvania Coal Company, .....	327,893
Delaware and Hudson Company, .....	319,829
Elliott, McClure and Company, .....	181,565
Wm. Connell and Company, .....	122,468
Austin Coal Company, .....	63,347
Gibbons Coal Company, .....	25,505
Brookside Coal Company, .....	41,154
Total, .....	5,294,252

## Production by Counties

Lackawanna, .....	5,172,645
Luzerne, .....	121,607
Total, .....	5,294,252



TABLE B.—Fatal and non-fatal accidents inside and outside of mines; number of tons of coal produced per accident; number of persons employed; number employed per accident

Names of Operators	Fatal Accidents			Non-Fatal Accidents			Tons of coal produced per fatal accident inside	Tons of coal produced per non-fatal accident inside	Number of employees inside	Number of employees outside	Total number of employees	Number of employees inside per fatal accident	Number of employees outside per fatal accident	Number of employees inside per non-fatal accident	Number of employees outside per non-fatal accident
	Inside	Outside	Total	Inside	Outside	Total									
Delaware, Lackawanna and Western Railroad Co.	19	1	20	22	5	3	171,406	102,976	3,908	1,379	5,287	296	1,379	122	276
Lehigh Valley Coal Co.	1	1	2	1	1	2	18,976	43,996	576	333	1,299	292	333	292	333
Berwyn and Co.	1	1	2	4	4	8	172,987	43,996	79	374	1,371	80	333	122	333
Pennsylvania Coal Co.	1	1	2	8	2	10	81,972	81,972	846	175	1,621	846	175	175	175
Delaware and Hudson Co.	1	1	2	8	2	10	39,979	39,979	885	334	1,217	177	177	177	177
Filbert, McClure and Co.	23	1	24	12	2	14	26,313	26,313	765	172	1,937	182	172	172	167
Wm. Connell and Co.	1	1	2	1	1	2	9,783	61,231	210	122	332	122	122	122	122
Miscellaneous companies.	22	2	24	62	1	63	115	116	115	116	261	115	116	115	122
Totals and averages for district.	22	2	24	62	1	63	165,445	85,391	8,339	3,005	11,335	260	1,503	134	334

Names of Operators

TABLE C.—Classification of fatal accidents inside and outside of mines

	Inside										Outside					Grand total		
	By Falls of			By Falling Into							By cars	By machinery	By suffocation	By boiler explosions	Miscellaneous causes		Total outside	
	Coal	Slate	Roof	By mine cars	By explosion of gas	Smothered by gas	By powder and dynamite	By blasts, etc.	Shafts	Slopes								Manways, breasts, etc.
January, .....			1	2													1	1
February, .....			1														4	4
March, .....																		
April, .....																		
May, .....				1													1	1
June, .....	1			2													6	6
July, .....																		
August, .....	1																	
September, .....																		
October, .....				1				1									1	1
November, .....																		
December, .....																		
Totals, .....	2		19	9				1									22	34

TABLE D.—Classification of non-fatal accidents inside and outside of mines

	Inside										Outside					Grand total									
	By Falls of			By mine cars	By explosion of gas	Smothered by gas	By powder and dynamite	By blasts, etc.	By Falling Into			Total inside	By cars	By machinery	By suffocation		By boiler explosions	Miscellaneous causes	Total outside						
	Coal	Slate	Roof						Shafts	Slopes	Manways, breasts, etc.									Crushed at batteries	Suffocated by coal, etc.	Miscellaneous causes			
January, .....	1		2	1	1		1	1				1	1					1	1	1	1	1	1		
February, .....			1	1	1								4	1										1	
March, .....			1	1	1		1					6												1	
April, .....			1	1	1							4	1											1	
May, .....			1	1	1							1	1											1	
June, .....	1		1	1	1							1	1											1	
July, .....			1	1	1							1	1											1	
August, .....	1		4	1	1							12	1		1									1	
September, .....			4	1	1						1														1
October, .....	1	4	1	1	1							4	1												1
November, .....	1		1	1	1						1		1												1
December, .....																									1
Totals, .....	4		23	17	1	3	7				3	4						62	6	1		2	9		71







TABLE G.—Nationality of Persons Killed or Fatally Injured Inside and Outside of Mines

	American	English	Welsh	Irish	German	Polish	Hungarian	Italian	Slavonian	Swedish	Totals
January, .....											1
February, .....	1	1		1		1			1		4
March, .....											
April, .....			1		1	2		1		1	6
May, .....			1	2		2					5
June, .....		1						1			2
July, .....					1	2					3
August, .....	1					1					2
September, .....	2					2	1		1		6
October, .....	1	1							1		3
November, .....	1			1							2
December, .....											
Totals, .....	6	3	2	4	2	10	1	2	3	1	31

TABLE H.—Nationality of Persons Injured Inside and Outside of Mines

	American	English	Welsh	Irish	German	Polish	Hungarian	Italian	Austrian	Totals
January, .....			2	1		2		1	1	7
February, .....				2		2		1		5
March, .....		1		2		2	1			6
April, .....	1		1			2				4
May, .....	1			1		1	2			5
June, .....	1			2		2				6
July, .....	2			2		2		1		9
August, .....	1		1			1				3
September, .....	1				1	2		2		6
October, .....			3	2						5
November, .....	1		1	2			1		1	4
December, .....	1	1			1	4				7
Totals, .....	10	2	10	14	2	22	4	5	2	71

TABLE I.—Operators and mines, kind of openings, type and size of fans, size of furnaces, volume of air produced by fan or furnace per minute, number of splits of air currents, number of persons employed inside, and quantity of air produced for each person per minute

Names of Operators and Mines	Kind of opening	Gaseous or non-gaseous	Method of ventilation	Diameter of fan in feet	Width of blades in feet	Depth of blades in feet	Number of revolutions per minute	Water gauge developed—inches	Name of fan	Power used	Number of splits of air currents	Number of cubic feet of air per minute entering the mine at inlet	Total quantity of air per minute circulating in all the splits in cubic feet	Number of cubic feet per minute passing out at outlet	Number of persons employed inside	Average number of cubic feet per minute provided for each person
Delaware, Lackawanna and Western Railroad Co.																
Archbald, .....	Shaft, ..	Gaseous, ..	Fan, .....	24	8	6	65	1.5	Guibal, ..	Steam, ..	{	135,405	181,388	239,884	346	521
Sloan, .....				24	6	6.9	65	1.75				168,380	84,500	182,500	216	391
Central, .....				14	4	4	108	.6				86,033	84,785	85,174	165	514
Continental, .....				14	4	4	118	.7				150,270	174,389	328	374	
Hampton, .....				12	4	4	123	.9				67,797	50,261	67,346	212	237
Fyne, .....				16	5	4.5	119	1.3				151,991	125,383	181,475	430	232
Dodge, .....				16	4.5	4.5	114	1.25				142,285	133,360	151,400	495	269
Holden, .....				25	8	6	40	.5				136,050	70,823	110,025	180	394
Taylor, .....				25	8	6	55	1.5				138,176	101,315	211,649	360	281
				12	3.5	3	110	.7			8					
Lehigh Valley Coal Co.																
William A., .....	Shaft, ..	Gaseous, ..	Fan, .....	18	5	5	75	.6	Guibal, ..	Steam, ..	{	117,510	101,650	122,090	310	323
Lawrence shaft and drifts, .....				18	5	5	65	1				63,000	57,400	69,440	129	445
Babylon shaft, .....				20	6.5	6	65	1.1				56,920	51,170	60,375	74	691
Babylon slope, .....				12	4	4	75	1				43,880	36,225	46,040	90	403
Jermyn and Co.																
Jermyn No. 1, .....	Shaft, ..	Gaseous, ..	Fan, .....	14	4.5	4	100	1.1	Guibal, ..	Steam, ..	{	96,200	87,600	103,000	320	274
Jermyn No. 2, .....				18	4.25	4	90	1				100,670	97,135	102,475	227	428
Jermyn No. 3, .....				18	4.5	4	100	1				36,875	36,875	41,140	110	335
Jermyn No. 2 slope, .....				18	4.5	4	100	1				18,165	17,955	18,260	36	499

Pennsylvania, Coal Co.	Old Forge No. 1 shaft, .....	Shaft, ..	Gaseous, ..	Fan, .....	20	5	5	52	9	Guibal, ..	Steam, ..	7	100,600	92,620	115,030	164	565
	Old Forge No. 1 slope, .....	Slope, ..	Gaseous, ..	Fan, .....	17	4.5	4.5	62	5	Guibal, ..	Steam, ..	2	62,100	53,430	63,200	181	408
	Old Forge No. 2 shaft, .....	Shaft, ..	Gaseous, ..	Fan, .....	29	5	5	53	6	Guibal, ..	Steam, ..	5	87,830	77,840	125,490	222	351
Delaware and Hudson Co.	Greenwood, New, No. 1, .....	Shaft, ..	Gaseous, ..	Fan, .....	17	5	5	65	3	Guibal, ..	Steam, ..	3	27,700	35,400	41,000	143	245
	Greenwood, Old, No. 1, .....	Shaft, ..	Non-gas, ..	Natural, ..	.....	.....	.....	.....	.....	.....	.....	2	23,300	27,600	31,500	104	265
	Greenwood No. 12 drift, .....	Drift, ..	Non-gas, ..	Furnace, ..	.....	.....	.....	.....	.....	.....	.....	1	14,200	13,800	15,200	55	251
	Greenwood No. 8 drift, .....	Drift, ..	Non-gas, ..	Furnace, ..	.....	.....	.....	.....	.....	.....	.....	1	18,100	17,400	19,200	65	268
	Greenwood No. 5 drift, .....	Drift, ..	Non-gas, ..	Natural, ..	.....	.....	.....	.....	.....	.....	.....	1	10,300	10,500	11,200	22	477
	Greenwood No. 2 slope, .....	Slope, ..	Non-gas, ..	Fan, .....	14	4	4	35	3	Guibal, ..	Steam, ..	1	15,400	14,200	16,300	50	284
	Greenwood No. 2 shaft, .....	Shaft, ..	Gaseous, ..	Fan, .....	17	5	5	75	4	Guibal, ..	Steam, ..	3	44,770	42,020	48,020	107	392
	Greenwood No. 14 drift, .....	Drift, ..	Non-gas, ..	Natural, ..	.....	.....	.....	.....	.....	.....	.....	1	13,020	12,610	14,280	42	300
	Greenwood No. 6 drift, .....	Drift, ..	Non-gas, ..	Natural, ..	.....	.....	.....	.....	.....	.....	.....	1	8,200	7,300	9,300	16	456
	Oak Hill drift, .....	Drift, ..	Non-gas, ..	Natural, ..	.....	.....	.....	.....	.....	.....	.....	1	12,600	11,520	13,200	42	274
	Spring Brook shaft, .....	Shaft, ..	Gaseous, ..	Fan, .....	15	3	3.5	60	3	Guibal, ..	Steam, ..	2	32,450	22,400	25,070	94	233
	Spring Brook slope, .....	Slope, ..	Non-gas, ..	Natural, ..	12	4	4	90	3	Guibal, ..	Steam, ..	1	17,400	10,890	22,670	26	419
	Spring Brook No. 1 drift, .....	Drift, ..	Non-gas, ..	Natural, ..	.....	.....	.....	.....	.....	.....	.....	1	17,000	11,120	25,990	22	605
	Spring Brook No. 2 drift, .....	Drift, ..	Non-gas, ..	Natural, ..	.....	.....	.....	.....	.....	.....	.....	...	5,000	5,000	5,000	15	333
Sibley, McClure and Co.	Shaft, ..	Shaft, ..	Gaseous, ..	Fan, .....	16	4	4	110	1.3	Guibal, ..	Steam, ..	7	98,600	79,810	102,680	234	341
	National shaft, .....	Shaft, ..	Gaseous, ..	Fan, .....	16	4	4	120	1.5	Guibal, ..	Steam, ..	3	57,240	54,510	64,390	134	407
	Meadow Brook tunnel, .....	Tunnel, ..	Non-gas, ..	Fan, .....	16	4	4	80	1	Guibal, ..	Steam, ..	4	50,240	47,860	54,660	100	479
Austin Coal Co.	Austin tunnel, .....	Tunnel, ..	Non-gas, ..	Fan, .....	12	3.5	3.5	55	.5	Guibal, ..	Steam, ..	2	43,140	31,470	46,220	91	346
	Gibbons Coal Co.	Slope, ..	Non-gas, ..	Natural, ..	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	Gibbon,* .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

\*Ventilated by Meadow Brook tunnel.

TABLE 1.—Operators, location of collieries, railroads, etc.

Names of Operators and Col- lieries	County	Name of General Superintendent	Post Office	Name of Superin- tendent	Post Office	Railroad to Mine
Delaware, Lackawanna and Western R. R. Co.						
Archbald, .....				Thos. J. Williams, .....	Scranton, .....	
Sloan, .....				Thos. J. Williams, .....	Scranton, .....	
Central, .....				Thos. J. Williams, .....	Scranton, .....	
Continental, .....				Thos. J. Williams, .....	Scranton, .....	
Hampton, .....				Thos. J. Williams, .....	Scranton, .....	
Pyne, .....				Thos. J. Williams, .....	Scranton, .....	
Dodge, .....				E. J. Evans, .....	Scranton, .....	
Holden, .....				E. J. Evans, .....	Scranton, .....	
Taylor, .....				E. J. Evans, .....	Scranton, .....	
		R. A. Phillips, ....	Scranton, .....			D., L. and W.
Bellevue, .....				Fred. C. Smith, ...	Scranton, .....	
Hampton, .....				Fred. C. Smith, ...	Scranton, .....	
Taylor, .....				Fred. C. Smith, ...	Scranton, .....	
Pyne, .....				Thos. J. Williams, ..	Scranton, .....	
		R. A. Phillips, ....	Scranton, .....			D., L. and W.
Lehigh Valley Coal Co.						
William A., .....						
Lackawanna, .....						
Lackawanna, .....						
Lackawanna, .....						
Luzerne, .....						
Luzerne, .....						
		S. D. Warriner, ...	Wilkes-Barre, .....	Thomas Thomas, ...	West Pittston, .....	Lehigh Valley
Jermyn and Co.						
Jermyn No. 1, .....						
Jermyn No. 2, .....						
Jermyn No. 3, .....						
Jermyn No. 2 slope, .....						
		E. E. Jermyn, ...	Scranton, .....	John Corcoran, ...	Kendham, .....	N. Y., S. and W.
Pennsylvania Coal Co.						
Old Forge No. 1 shaft, .....						
Old Forge slope, .....						
Old Forge No. 2 shaft, .....						
		W. W. Inglis, ....	Scranton, .....	Wm. P. Jennings, ..	West Pittston, .....	Erie R. R.

Delaware and Hudson Co.						
Greenwood, N. W. No. 1, .....	Lackawanna,	C. Rose, .....	Scranton, .....	John Lovering, ....	Greenwood, .....	Delaware and Hudson
Greenwood, Old No. 1, .....						
Greenwood No. 12 drift, .....						
Greenwood No. 8 drift, .....						
Greenwood No. 5 drift, .....						
Greenwood No. 2 slope, .....						
Greenwood No. 2 shaft, .....						
Greenwood No. 14 drift, .....						
Greenwood No. 6 drift, .....						
Oak Hill drift, .....						
Spring Brook shaft, .....						
Spring Brook slope, .....						
Spring Brook No. 1 drift, .....						
Spring Brook No. 2 drift, .....						
Greenwood washery, .....						
Elliott, McClure and Co.						
Sibley, .....	Lackawanna,	R. W. Reese, .....	Rendham, .....	Henry W. Evans, .	Taylor, .....	D., L. and W. and Le-
Wm. Connell and Co.						high Valley
National shaft, .....	Lackawanna,	E. H. Ripple, .....	Scranton, .....	S. T. Jones, .....	Scranton, .....	D., L. and W.
Meadow Brook tunnel, .....	Lackawanna,	E. H. Ripple, .....	Scranton, .....	S. T. Jones, .....	Scranton, .....	D., L. and W.
Austin Coal Co.						
Austin tunnel, .....	Lackawanna,	W. G. Robertson, ..	Scranton, .....	Edwin W. Davis, ..	Old Forge, .....	Lehigh Valley
Gibbons Coal Co.						
Gibbons, .....	Lackawanna,	Michael Gibbons, ..	Scranton, .....	.....	.....	D., L. and W.
Brookside Coal Co.						
Brookside washery, .....	Lackawanna,	M. F. Dolphin, .....	Scranton, .....	.....	.....	N. Y., S. and W.



TABLE 2.—Number of tons of coal mined, number of persons employed, number killed and injured, quantity of powder and dynamite used, etc.

Names of Operators and Collieries	County	Number of tons of coal shipped to market	Number of tons used at collieries for steam and heat	Number of tons sold to local trade and used by employees	Total production of coal in tons	Number of days worked (totals are averages, not including washeries)	Number of employees	Number of fatal accidents	Number of non-fatal accidents	Number of kegs of powder used	Number of pounds of dynamite used	Number of horses and mules
Delaware, Lackawanna and Western R. R. Co.												
Archbald, .....	Lackawanna,	368,053	14,830	508	383,391	220	784	1	6	16,663	949	86
Sloan and Central, .....	Lackawanna,	344,164	.....	265	311,429	217	732	2	9	11,681	3,650	60
Continental, .....	Lackawanna,	242,114	.....	3,242	246,561	238	600	1	5	10,088	3,487	74
Hampton, .....	Lackawanna,	196,853	1,175	295	197,148	231	397	1	6	7,421	50	52
Pyne, .....	Lackawanna,	487,666	21,574	2,207	511,447	237	794	.....	4	14,258	1,744	100
Dodge, .....	Lackawanna,	324,135	.....	1,109	325,794	233	614	1	5	15,032	1,200	66
Holden, .....	Lackawanna,	230,249	15,968	1,146	247,063	258	435	3	1	8,832	366	53
Taylor, .....	Lackawanna,	309,504	20,196	7,352	337,452	238	736	5	1	13,332	2,388	71
*2,503,168			73,933	16,124	2,593,225	224	5,092	20	37	97,320	13,834	568
Bellvue washery, .....	Lackawanna,	238,133	.....	.....	238,133	211	55	.....	.....	4	347	3
Taylor washery, .....	Lackawanna,	182,600	3,300	.....	185,900	186	43	.....	.....	.....	.....	4
Hampton washery, .....	Lackawanna,	178,802	.....	.....	178,802	218	46	.....	.....	.....	.....	.....
Pyne washery, .....	Lackawanna,	117,640	835	.....	118,475	207	19	.....	.....	.....	.....	.....
Central Boiler Plant, .....	Lackawanna,	697,235	4,135	.....	701,370	206	163	.....	.....	4	347	7
Totals, .....		3,200,403	78,068	16,124	3,294,595	224	5,287	20	37	97,321	14,181	575

\*81,253 tons used for steam and heat at Central Boiler Plant.



[illegible]

TABLE 2.—Recapitulation

Names of Operators	County	Number of tons of coal shipped to market	Number of tons used at collieries for steam and heat	Number of tons sold to local trade and used by employees	Total production of coal in tons	Average number of days worked (not including washeries)	Number of employees	Number of fatal accidents	Number of non-fatal accidents	Number of kegs of powder used	Number of pounds of dynamite used	Number of horses and mules
Delaware, Lackawanna and Western Railroad Co.,	Lackawanna,	3,200,463	78,068	16,124	3,204,565	231	5,287	29	37	97,324	14,181	575
Lehigh Valley Coal Co.,	Luzerne and La-kawanna,	520,927	45,640	3,360	568,927	233	1,219	4	4	29,273	10,924	146
Jermyn and Co.,	Lackawanna,	310,217	33,462	4,230	347,969	182	1,371	2	8	20,443	17,500	78
Pennsylvania Coal Co.,	Lackawanna,	326,002	7,786	165	327,883	151	1,021	1	4	13,824	9,009	91
Delaware and Hudson Co.,	Lackawanna,	288,455	27,967	3,407	319,829	174	1,217	1	10	24,018	36,428	452
Elliott, McElure and Co.,	Lackawanna,	162,601	16,425	2,539	181,565	198	537	1	5	7,430	2,570	50
Wm. Connell and Co.,	Lackawanna,	103,820	8,500	16,148	122,468	151	432	.....	3	838	11,810	52
Austin Coal Co.,	Lackawanna,	8,431	2,650	2,558	63,347	28	161	.....	.....	2,499	4,075	18
Brooks Coal Co.,	Lackawanna,	5,315	1,000	18,500	25,315	225	69	.....	.....	1,121	150	25
Brookside Coal Co.,	Lackawanna,	33,018	1,500	636	41,154	213	31	.....	.....	.....	.....	.....
Totals,	.....	5,099,457	223,028	61,767	5,394,252	187	11,335	34	71	197,402	106,617	1,179

TABLE 2.—Continued

Names of Operators	County	Number of Boilers				Locomotives			Number of steam engines of all classes	Total horse power	Number of pumps delivering water to surface	Capacity in gallons per minute	Quantity delivered to surface per minute—gallons	Number of electric dynamos	Number of air compressors
		Cylindrical	Horse power	Tubular	Horse power	Total horse power	Steam	Air	Electric						
Delaware, Lackawanna and Western Railroad Co.,	Lackawanna	79	2,888	31	5,860	8,748	8	.....	10	165	12,933	14,337	9,360	8	2
Lehigh Valley Coal Co.,	Lackawanna	45	2,169	.....	150	2,310	1	.....	.....	28	2,150	4,069	3,800	1	.....
Jermyn and Co.,	Lackawanna	15	450	7	1,070	1,500	1	.....	.....	19	1,119	4,000	1,800	.....	.....
Pennsylvania Coal Co.,	Lackawanna	.....	.....	8	1,460	1,460	2	.....	.....	21	1,303	3,135	2,021	.....	.....
Delaware and Hudson Co.,	La. Kiawanna	25	850	9	1,125	1,984	4	.....	.....	34	1,451	2,976	4,850	.....	.....
Elliott, McClure and Co.,	Lackawanna	.....	.....	8	1,150	1,150	.....	.....	.....	14	.....	2,500	1,500	.....	1
Wm. Connell and Co.,	Lackawanna	.....	50	6	900	950	2	.....	.....	9	450	2,575	1,700	.....	3
Austin Coal Co.,	Lackawanna	7	140	1	100	240	1	.....	.....	21	600	550	200	.....	.....
Gibbons Coal Co.,	Lackawanna	.....	.....	3	90	90	.....	.....	3	3	60	.....	.....	.....	.....
Brookside Coal Co.,	Lackawanna	.....	.....	3	300	300	.....	.....	.....	.....	.....	.....	.....	.....	.....
Totals,	.....	173	6,547	47	11,885	18,432	19	.....	10	224	20,126	34,188	21,331	9	10



Lehigh Valley Coal Co.		1	1	2	255	125	85	8	4	53	14	498	1	10	11	45	30	2	81	180	679
William A.,	.....	1	1	1	65	25	23	2	2	17	5	141	1	1	3	8	40	2	81	180	679
Lawrence,	.....	1	1	1	30	75	34	2	3	21	4	237	1	1	6	8	40	2	81	180	679
Babylon,	.....	1	1	1	30	75	34	2	3	21	4	237	1	1	6	8	40	2	81	180	679
Totals,	.....	3	1	4	360	225	142	18	9	91	23	876	2	19	27	85	30	4	168	333	1,219
Jermyn and Co.																					
Jermyn No. 1,	.....	2	1	4	238	221	75	10	5	58	.....	612	1	8	11	75	73	2	73	233	936
Jermyn No. 2,	.....	1	1	4	164	135	28	13	2	47	.....	285	1	5	4	60	27	2	52	151	536
Totals,	.....	3	1	8	391	356	103	23	7	105	.....	997	2	13	15	135	100	4	105	374	1,371
Pennsylvania Coal Co.																					
Old Forge,	.....	2	3	311	336	100	23	1	41	29	.....	816	1	8	8	50	12	2	94	175	1,021
Delaware and Hudson Co.																					
Greenwood No. 1,	.....	1	1	2	170	160	67	18	4	24	15	463	1	16	22	32	5	2	120	198	601
Greenwood No. 2,	.....	1	1	1	66	60	31	7	2	3	12	182	1	3	7	38	19	1	42	108	345
Spring Brook,	.....	1	1	1	96	100	25	5	1	5	4	237	1	3	7	38	19	1	42	108	345
Greenwood washery,	.....	3	1	3	332	320	123	30	7	32	32	853	2	19	29	67	24	3	162	306	1,189
Totals,	.....	3	1	3	332	320	123	30	7	32	32	853	1	1	3	4	3	1	16	38	23
Elliott, McClure and Co.																					
Sibley,	.....	3	1	3	332	320	123	30	7	32	32	853	3	19	32	71	27	4	178	334	1,217
Wm. Connell and Co.																					
National shaft,	.....	1	1	2	115	112	50	29	4	51	.....	365	1	5	8	86	16	2	54	172	537
Meadow Brook tunnel,	.....	1	1	1	55	35	36	7	2	21	.....	158	1	5	10	50	14	2	29	111	269
Totals,	.....	2	1	1	55	35	36	7	2	21	.....	158	1	5	10	50	14	2	29	111	269
Austin Coal Co.																					
Austin tunnel,	.....	2	1	1	110	85	61	15	2	34	.....	310	1	6	12	50	14	2	37	172	482
Gibbons Coal Co.	.....	1	1	1	37	28	16	.....	1	18	5	106	1	4	5	5	11	2	27	55	161
Gibbons,	.....	1	1	1	16	16	4	1	.....	1	.....	39	1	1	3	12	.....	2	11	20	69
Brookside Coal Co.	.....	29	9	48	2,974	2,913	1,022	248	55	730	402	8,330	1	1	2	6	.....	1	20	31	31
Grand totals,	.....	29	9	48	2,974	2,913	1,022	248	55	730	402	8,330	31	129	194	906	343	42	1,360	3,005	11,316









TABLE 4.—Fatal accidents inside and outside of mines

Date of accident	Name of Person	Nationality	Occupation	Age			Name of Mine	County	Nature and Cause of Accident in Brief
				Married or single	Number of widows	Number of orphans			
Feb.	17 John Shervanick, .....	Slavonian, .....	Laborer, ..	40 M.	1	3	Archbald, .....	Lackawanna,	Fatally injured by fall of roof in face of airway in Diamond vein. Died same night.
March	11 John Davis, .....	American, ..	Company man,	22 S.	.....	.....	Stean, .....	Lackawanna,	Instantly killed by being caught between a truck load of T rails and a loaded trip of cars standing in the gangway road.
	11 John Solavitch, .....	Polish, .....	Company man,	24 M.	1	4	Jermyn No. 2, ....	Lackawanna,	Fatally injured by being crushed between a truck load of timber and some props on the side of the gangway road. Died March 11.
	17 Patrick Sweeney, .....	Irish, .....	Company man,	27 S.	.....	.....	Archbald, .....	Lackawanna,	Killed instantly by fall of roof in Rock vein. He was a victim in company with others who were getting a gangway road, and while in the act of moving some, sob a large portion of the roof fell on him.
	26 Stanley Naylor, .....	English, .....	Driver, ....	17 S.	.....	.....	Spring Brook, ....	Lackawanna,	While riding on the bumper of a car and sliding his foot on the rail, his foot was caught between the branch rail's, throwing him under the car, inflicting injuries from which he died same day.
May	3 Joseph Delis, .....	Italian, .....	Plate-man, .	22 S.	.....	.....	Lawrence, .....	Lackawanna,	Killed by falling into "rolls" in breaker. These two men were returning to the face of the chamber in the Clark vein to learn the result of a blast, when a large piece of roof fell on them, inflicting injuries from which Savanski died next day.
	11 John J. Daniels, .....	Welsh, .....	Miner, .....	26 M.	1	1	Holden, .....	Lackawanna,	Fatally injured by falling under loaded trip of cars on gangway road.
	11 Joseph Savanski, .....	Polish, .....	Laborer, ...	35 M.	1	.....	Holden, .....	Lackawanna,	
	16 Tony Kilvitus, .....	Polish, .....	Helper, ....	17 S.	.....	.....	Holden, .....	Lackawanna,	Killed while in the act of resending props which were discharged by a blast in face of chamber in Diamond vein.
	26 August Gable, .....	German, .....	Miner, .....	48 M.	1	2	Archbald, .....	Lackawanna,	

25	Casper Von Bergen, ....	Swedish, ....	Miner, ....	50	M. 1	3	Taylor, .....	Lackawanna,	Fatally injured by fall of roof in face of chamber in New County vein. Died June 2.
June	11	Cornelius O'Boyle, .....	Irish, .....	21	S. ....	....	Old Forge No. 1, .	Lackawanna,	Fatally injured by falling under loaded cars on gangway road, while trying to un-couple car when in motion.
	17	Wm. Novocoski, .....	Polish, .....	28	S. ....	....	Greenwood No. 1, .	Lackawanna,	Fatally injured by a fall of roof in face of chamber in No. 2 Dunmore vein. Died same day.
	22	Anthony E. Jones, ....	Welsh, ....	49	M. 1	5	Archbald, .....	Lackawanna,	Instantly killed by fall of top coal in face of chamber in Big vein.
	30	Alex. Liejenski, .....	Polish, .....	34	M. 1	3	Central, .....	Lackawanna,	Instantly killed by a fall of roof at a point 150 feet from face of chamber in New County vein.
July	30	Stephen Cooney, .....	Irish, .....	20	S. ....	....	Greenwood No. 1, .	Lackawanna,	Fatally injured by falling under a loaded trip of cars that was being hoisted up a slope. Died next day.
	3	John Farrad, .....	English, .....	41	M. 1	....	Archbald, .....	Lackawanna,	Leg fractured and injured internally by a fall of roof at foot of shaft. Died August 8.
	15	John Corella, .....	Italian, .....	22	M. 1	4	Sibley, .....	Lackawanna,	Killed by a fall of roof in face of chamber in Clark vein while taking down top coal.
Aug.	1	Casper Frutigar, .....	German, .....	50	M. 1	6	Taylor, .....	Lackawanna,	Fatally injured by fall of top coal in face of chamber in New County vein. Died same day.
	18	Benjamin Bawitch, ...	Polish, .....	45	S. ....	....	Jermyn No. 2, ....	Lackawanna,	Instantly killed by a fall of roof on side of gangway, while cutting a hitch for a collar.
	26	Paul Kawtaski, .....	Polish, .....	23	S. ....	....	Greenwood No. 1, .	Lackawanna,	Instantly killed by a "saddle" of rock falling on him in face of chamber in No. 2 Dunmore vein.
Sept.	15	John Yeu-chifski, .....	Polish, .....	26	S. ....	....	Babylon, .....	Luzerne, ....	Instantly killed by fall of roof while robbing pillars.
	17	James Franey, .....	American, ...	19	S. ....	....	Hampton, .....	Lackawanna,	Fatally injured by fall of roof in face of chamber in Rock vein. Died next day.
Oct.	5	Michael Yanis, .....	Polish, .....	24	M. 1	....	Archbald, .....	Lackawanna,	Killed at face of chamber by fall of roof while assisting the miner to restand a prop which had been discharged by a blast.
	7	Richard Harris, .....	American, ...	22	M. 1	....	Taylor, .....	Lackawanna,	Fatally injured by being run over by a railroad car at the breaker. Died same day.
	13	John Kowolisky, .....	Slavonian, ...	21	S. ....	....	Taylor, .....	Lackawanna,	Fatally burned. A can of oil was upset over his clothing which took fire from the lamp he held in his hand. He died October 17.
	19	Polish Zamka, .....	Polish, .....	35	S. ....	....	Dodge, .....	Lackawanna,	Instantly killed by a fall of roof twenty-five feet back from face of chamber in Rock vein.
	22	John Fetseo, .....	Hungarian	35	M. 1	1	Sibley, .....	Lackawanna,	Instantly killed by premature blast while ramming cartridge into the hole with scraper.

TABLE 4.—Continued

Date of accident	Name of Person	Nationality	Occupation	Age	Married or single	Number of widows	Number of orphans	Name of Mine	County	Nature and Cause of Accident in Brief
Oct. 21	Hugh McCutcheon, .....	American, ..	Track-man, ..	54	M.	1	1	William A., .....	Lackawanna,	Fatally injured by a fall of roof in face of chamber while laying syp on pipes. Died same day.
Nov. 3	Mike Siliski, .....	Slavonian, ..	Laborer, ...	40	M.	1	1	Archbald, .....	Lackawanna,	Instantly killed by fall of roof in face of chamber in big vein.
5	Edgar Jones, .....	American, ..	Driver, .....	19	S.	.....	.....	Taylor, .....	Lackawanna,	He was driving his mule too fast and standing on front bumper when the car jumped the track and crushed into the pillar, inflicting injuries from which he died same day.
19	Thomas Adams, .....	English, ...	Rock-man, ..	35	S.	.....	.....	Lawrence, .....	Lackawanna,	While making room for a cellar on the sawway road, a piece of roof fell on him and crushed him against a pick handle, which penetrated his side, fracturing a rib and injuring his lung. Died November 22.
Dec. 6	Edward Edwards, .....	American, ..	Driver, .....	20	S.	.....	.....	Continental, .....	Lackawanna,	Fatally injured by being run over by a rock chamber, died December 8.
22	Patrick Quinn, .....	Irish, .....	Door-man, ..	74	M.	1	.....	Greenwood No. 2, ..	Lackawanna,	While passing a loaded trip of cars on the gangway road to his work the first car jumped the track and crushed him against the rib, inflicting injuries from which he died.





TABLE 5. — Continued

Date of accident	Name of Person	Nationality	Occupation	Age	Married or single	Name of Mine	County	Nature and Cause of Accident in Brief
March 12	Patrick McConville, . . .	Irish, . . . . .	Miner, . . . . .	32	M	Spring Brook, . . . . .	Lackawanna,	The victim was pushing a charge of powder into a hole with a scraper when it exploded, severely cutting and burning him on face and hands.
16	Harry Orzechesky, . . . . .	Polish, . . . . .	Miner, . . . . .	28	M	Jermyn No. 1, . . . . .	Lackawanna,	Head badly cut by premature blast.
19	Wm. Shrivess, . . . . .	English, . . . . .	Miner, . . . . .	34	M	Jermyn No. 1, . . . . .	Lackawanna,	Leg fractured by fall of roof in face of chamber in Baltimore vein.
29	George Roman, . . . . .	Hungarian, . . . . .	Miner, . . . . .	44	M	Jermyn No. 1, . . . . .	Lackawanna,	Leg fractured by fall of roof in face of chamber.
April 4	John Fallon, . . . . .	American, . . . . .	Driver, . . . . .	17	S	Jermyn No. 1, . . . . .	Lackawanna,	Leg fractured by falling under a trip of mine cars on gangway road.
12	Richard Davis, . . . . .	Welsh, . . . . .	Driver, . . . . .	20	S	Hampton, . . . . .	Lackawanna,	Injured internally by falling under loaded mine car on gangway road.
12	Lorenzo Markitus, . . . . .	Polish, . . . . .	Laborer, . . . . .	48	S	Babylon, . . . . .	Luzerne, . . . . .	Leg fractured by fall of roof at face of chamber in middle seam, Red Ash vein.
29	John Olizinski, . . . . .	Polish, . . . . .	Laborer, . . . . .	21	S	Dodge, . . . . .	Lackawanna,	Leg fractured by a piece of rock falling into side of head.
May 10	Wm. O'Henry, . . . . .	Hungarian, . . . . .	State-picker, . . . . .	17	S	Taylor, . . . . .	Lackawanna,	Thumb and four fingers badly crushed by falling under railroad car under breaker.
11	Edward Edwards, . . . . .	American, . . . . .	Driver, . . . . .	18	S	Continental, . . . . .	Lackawanna,	Hip dislocated by falling under mine cars on gangway road.
14	Stephen Orlashin, . . . . .	Hungarian, . . . . .	Laborer, . . . . .	32	M	Old Forge No. 2, . . . . .	Lackawanna,	Spine injured and ankle sprained by fall of roof in Bottom seam, Red Ash vein.
27	Frank McLane, . . . . .	Irish, . . . . .	Driver, . . . . .	18	S	Greenwood No. 1, . . . . .	Lackawanna,	Arm fractured by being caught between roof and car inside.
31	Kostantz Svisky, . . . . .	Polish, . . . . .	Miner, . . . . .	26	S	Jermyn No. 1, . . . . .	Lackawanna,	While making a charge of powder with lighted lamp on his head a spark fell into the powder which ignited, burning him severely on face, arms and body.
June 12	John Jaynes, . . . . .	American, . . . . .	Driver, . . . . .	17	S	Continental, . . . . .	Lackawanna,	Leg fractured by a car running against head-block with such force as to throw him across the track, his leg caught his leg between the bumper and a prop.



13	Thos. Walsh, .....	Irish, .....	Driver, .....	17	S.	Greenwood No. 1, .....	Lackawanna, .....	While driving his mule on the gangway road he struck it with a stick. The mule kicked him in the stomach, injuring him internally. Arm fractured by being thrown off railroad car.
15	Mike Lesick, .....	Polish, .....	Outside laborer, .....	24	S.	Hampton Plant, .....	Lackawanna, .....	
28	John Connolly, .....	Irish, .....	Miner, .....	59	M.	Old Forge No. 2, .....	Lackawanna, .....	
30	Mike Breezy, .....	Polish, .....	Miner, .....	32	M.	Sibley, .....	Lackawanna, .....	
30	Charles Crougher, .....	Polish, .....	Laborer, .....	32	M.	Sloan, .....	Lackawanna, .....	
6	George Shimelfnick, .....	American, .....	Driver, .....	17	S.	Hampton, .....	Lackawanna, .....	
8	John Thomas, .....	Welsh, .....	Helper, .....	17	S.	Dodge, .....	Lackawanna, .....	
8	John O'Toole, .....	Irish, .....	Culm driver, .....	15	S.	Greenwood No. 2, .....	Lackawanna, .....	
11	Jos. Kosusko, .....	Polish, .....	Laborer, .....	19	S.	National, .....	Lackawanna, .....	
14	Joseph Page, .....	Italian, .....	Runner, .....	19	S.	Old Forge No. 1, .....	Lackawanna, .....	
18	Wm. Cassidy, .....	American, .....	Oilier, .....	17	S.	Sloan, .....	Lackawanna, .....	
19	John Coleman, .....	Irish, .....	Miner, .....	40	M.	Central, .....	Lackawanna, .....	
21	Owen McHugh, .....	American, .....	Company man, .....	20	S.	Central, .....	Lackawanna, .....	
30	Stanley Cleckato, .....	Polish, .....	Laborer, .....	21	S.	Jermyn No. 1, .....	Lackawanna, .....	
15	David Morgan, .....	Welsh, .....	Miner, .....	35	M.	Hampton, .....	Lackawanna, .....	
22	Wm. Frands, .....	American, .....	Carpenter, .....	31	S.	Pyne, .....	Lackawanna, .....	
27	John Meshak, .....	Polish, .....	Miner, .....	54	M.	Pyne, .....	Lackawanna, .....	
2	Henry Davis, .....	Welsh, .....	Miner, .....	33	M.	Sloan, .....	Lackawanna, .....	
15	Wm. Zelscoski, .....	Polish, .....	Laborer, .....	18	S.	Central, .....	Lackawanna, .....	
19	Charles Lyden, .....	American, .....	Driver, .....	18	S.	Archbald, .....	Lackawanna, .....	
23	Louis Furnoocki, .....	Italian, .....	Miner, .....	28	S.	Meadow Brook tunnel, .....	Lackawanna, .....	
								While driving his mule on the gangway road he struck it with a stick. The mule kicked him in the stomach, injuring him internally. Arm fractured by being thrown off railroad car.
								Both legs fractured by fall of roof at face of chamber in five-foot vein.
								Leg fractured by being thrown off cage at foot of shaft.
								Skull fractured by fall of top coal in face of chamber, Clark vein.
								Leg and collar bone fractured by being squeezed between car and mule inside.
								Arm fractured by being squeezed between car and mule inside of gangway.
								While riding a mule over a culm dump the mule became frightened and threw him off. He got caught in the tiaves and was dragged a distance of 100 yards.
								bruising him about the head and body.
								Severely bruised about hips and lacerated about face, and head by fall of roof at face of chamber.
								Leg badly lacerated by falling under trip of cars at foot of plane inside.
								Compound fracture of leg while tying to make a coupling while cars were in motion outside.
								Dislocation of shoulder and bruised about the body by fall of roof at face of chamber.
								Body, bruised about head, and body badly cut by fall of roof on main gangway in Big vein.
								Leg fractured by fall of roof in face of chamber.
								Both legs fractured and head and face badly cut by fall of top coal at face of chamber in Rock vein.
								Hand cut and two fingers cut off by circular saw, while ripping a plank in carpenter shop outside.
								Leg fractured by being struck with mine car inside.
								Arm badly lacerated by fall of roof at face of chamber.
								Leg fractured by fall of roof at face of chamber.
								Compound fracture of both legs by being compressed between two mine cars on gangway road.
								Hands badly burned by his lamp tenting some powder on the gangway road.

TABLE 5.—Continued

Date of accident	Name of Person	Nationality	Occupation	Age	Married or single	Name of Mine	County	Nature and Cause of Accident in Brief
Sept	Frank Salsoda, .....	German, .....	Mason, .....	71	M.	Shan, .....	Lackawanna,	Leg fractured by cars jumping track on main-gangway road.
28	Les Vinowski, .....	Polish, .....	Miner, .....	33	M.	Central, .....	Lackawanna,	Foot fractured by fall of roof at face of chamber.
30	Stro Palmeri, .....	Italian, .....	Miner, .....	25	M.	Spring Brook, .....	Lackawanna,	Leg fractured by fall of roof at face of chamber.
Oct.	Richard Richards, .....	Welsh, .....	Driver, .....	20	S.	Archbald, .....	Lackawanna,	Shoulder fractured by being kicked by mule inside.
7	Griffith Reese, .....	Welsh, .....	Miner, .....	42	M.	Continental, .....	Lackawanna,	Severely wounded, cut on ear, and back sprained by fall of roof at face of chamber.
15	John Ward, .....	Irish, .....	Miner, .....	28	S.	Old Forge No. 2, ..	Lackawanna,	Leg fractured by fall of roof at face of chamber.
22	Andrew Phob, .....	Hungarian, .....	Laborer, .....	32	M.	Sibley, .....	Lackawanna,	Leg blown out and head badly cut by flying coal from blast.
24	John Brozinsky, .....	Polish, .....	Miner, .....	30	M.	Lawrence, .....	Lackawanna,	Leg fractured by fall of roof at face of chamber.
26	Martin O'Malley, .....	Irish, .....	Miner, .....	35	S.	Continental, .....	Lackawanna,	Leg dislocated by fall of roof at face of chamber.
26	Emlyn Davis, .....	Welsh, .....	Driver, .....	47	S.	Dodge, .....	Lackawanna,	Arm dislocated by car jumping the track and falling on his foot. Inside accident.
21	Joseph Millcher, .....	Austrian, .....	Miner, .....	64	M.	Tyne, .....	Lackawanna,	Leg cut off by fall of top coal at face of chamber.
Nov	John Richardson, .....	Irish, .....	Outside laborer, ..	20	S.	Greenwood No. 2, ..	Lackawanna,	Leg cut off by falling under two ash cars outside.
11	David R. Davis, .....	Welsh, .....	Miner, .....	27	M.	Archbald, .....	Lackawanna,	Leg cut at side severely injured by fall of top coal at face of chamber.
12	J. S. Rafter, .....	Irish, .....	Miner, .....	31	M.	Hampton, .....	Lackawanna,	Back, head and wrist severely injured by fall of roof.
20	Wm. Jones, .....	American, .....	Officer, .....	16	S.	Central, .....	Lackawanna,	Foot fractured by being thrown under a trip of loaded cars inside.
10	Ziemann Szczepanski, .....	Polish, .....	Laborer, .....	21	S.	Archbald, .....	Lackawanna,	Leg fractured by fall of roof at face of chamber.
8	John Syarcitues, .....	Polish, .....	Miner, .....	50	M.	Jermyn No. 2, .....	Lackawanna,	Face and hands badly cut by flying rock from a blast inside.

10	Paul Illco, .....	Polish, .....	Driver, .....	18	S.	Jermyn No. 1, ....	Lackawanna.	Face and jaw severely injured by a kick from a mule. Inside accident.
10	George Kohler, .....	German, .....	Driver, .....	19	S.	Archbald, .....	Lackawanna.	The victim was driving out on to a passing branch. The "tail rope" was in motion, he stepped on it and was thrown on the tracks. Two cars passed over his arm, severing it near the shoulder.
14	Martin Herity, .....	American, .....	Driver, .....	16	S.	National, .....	Lackawanna.	Leg fractured by falling under a loaded coal car on the dump outside.
19	Peter Dasza, .....	Polish, .....	Laborer, .....	25	S.	Continental, .....	Lackawanna.	Arm fractured by fall of roof while resting prop.
22	Wm. H. Cook, .....	English, .....	Miner, .....	48	M.	Archbald, .....	Lackawanna.	Leg fractured by being struck with "tail rope." Inside accident.

## CONDITION OF COLLIERIES

## DELAWARE, LACKAWANNA AND WESTERN RAILROAD COMPANY

Archbald Colliery.—A new 8x6x24 feet ventilating fan of the Guibal type was installed and has made a vast improvement in the ventilation. The drainage is good.

Sloan Colliery.—The ventilation and drainage are good.

Central Colliery.—The ventilation and drainage are good.

Continental Colliery.—The ventilation and drainage of this colliery are in a fair condition.

Hampton Colliery.—The ventilation at this colliery is fair. The conditions at this colliery make it hard to keep the ventilation up to the standard. This is due to the veins being worked under those of another colliery and the dividing rock being thin allows the air to escape through the crevices and openings made by falls. The drainage is good.

Pyne Colliery.—The ventilation and drainage are good.

Dodge Colliery.—The ventilation and drainage are in fair condition.

Holden Colliery.—Ventilation is in a fair condition; drainage good.

Taylor Colliery.—Ventilation and drainage are in a fair condition.

## LEHIGH VALLEY COAL COMPANY

William A. Colliery.—Ventilation and drainage are in a fair condition.

Lawrence Colliery.—General condition fair.

Babylon Colliery.—Condition good. The principal work is that of robbing pillars.

## JERMYN AND COMPANY

Jermyn No. 1.—Ventilation fair; drainage good.

Jermyn No. 2.—Ventilation fair; drainage good.

Jermyn No. 3.—Upon my last inspection of this colliery I found the drainage very unsatisfactory, but the ventilation fair. There is an ample quantity of air passing along the main roads, but it is not properly distributed.

## PENNSYLVANIA COAL COMPANY

Old Forge No. 1.—Ventilation fair; drainage good.

Old Forge No. 1 Slope.—General condition good.

Old Forge No. 2.—Ventilation fair; drainage good.

## DELAWARE AND HUDSON COMPANY

Greenwood No. 1.—General condition fair.

Greenwood No. 2.—General condition fair.

Spring Brook Colliery.—Ventilation and drainage fair.

## ELLIOTT, McCLURE AND COMPANY

Sibley Colliery.—By enlarging the second opening the ventilation of this colliery has been improved, but it is not yet up to the requirements. The drainage could also be improved. The officials in charge are making every effort to improve the conditions.

## WM. CONNELL AND COMPANY.

National Shaft.—General condition fair.

Meadow Brook Tunnel.—Ventilation and drainage fair.

## AUSTIN COAL COMPANY

Austin tunnel.—General condition fair.

## GIBBONS COAL COMPANY

Gibbons Mine.—General conditions fair. The principal work done at this mine is the taking out of pillars at out-crop.

## IMPROVEMENTS

## DELAWARE, LACKAWANNA AND WESTERN RAILROAD COMPANY

Continental Colliery.—One Rock slope located about 600 feet north east of shaft, from Clark to Dunmore No. 3 vein, 7x12 feet length, 375 feet on a pitch of 15 degrees. They are now opening Dunmore No. 2 vein east and west of slope.

Archbald Colliery.—One Rock plane tunnel located about 1,800 feet west of shaft from New County to Big vein, 7x14 feet, length 275 feet; pitch 8 degrees. Connection is being made with east section of Big vein.

A new 8x6x24 ventilating fan of the Guibal type; size of engine 18x30 inches, steel casting, brick engine house with sheet-iron and concrete roof, concrete foundation, and fan-drift connected to the up-cast shaft, absolutely fire-proof. This fan was completed and connected to the mines September 1, 1904, and gives satisfactory results. A test was made in fan-drift a few days later to ascertain the amount of ventilation produced. Record, 236,500 cubic feet of air per minute. Speed of fan 65 revolutions, water gauge  $1\frac{1}{2}$  inch, this being on an average of 90,000 cubic feet more air than produced by the old ventilating fan.

A new 1,250 horse power B. & W. water tube boiler and brick-house are now nearly completed. Located about 250 feet west of breaker. This will do away with the old cylinder boilers.



Pyne colliery.—A new belt-driven ventilating fan  $5 \times 4\frac{1}{2}$  feet by 16 inches was erected at the Pyne. The fans erected in 1903, together with this one, were attached to the breaker, which was a source of danger from fire.

One Rock Plane tunnel located about 1,700 feet north-east of shaft from the Clark to the Big vein;  $7 \times 14$  feet, length 663 feet, pitch 12 degrees.

Six  $6\frac{1}{2}$  ton electric locomotives have been installed, four of which are equipped with reels to work in chambers. Sub-station erected outside for 200 K. W. rotary converter which supplies 250 volts power for the six (6) electric motors inside.

Power is supplied from the central power station near Hampton colliery.

The new 1,500 horse power B. & W. water tube boilers and brick house are now nearly completed. Located about 250 feet north-east of breaker.

Sloan Colliery.—One Rock plane tunnel located about 2,000 feet north-east of shaft from Clark to N. C. vein,  $7 \times 14$  feet length 275 feet, pitch 10 degrees.

Central Colliery.—One rock tunnel plane, located about 800 feet north-west of shaft,  $7 \times 14$  feet length 375 feet, from Clark to New County vein, pitch 10 degrees.

Hampton Colliery.—One rock plane tunnel, located about 2,600 feet south of shaft, from Rock to Diamond vein,  $7 \times 14$  feet, length 200 feet, grade 5 per cent.

Holden Colliery.—Air shaft from the Big vein to New County vein, size  $6 \times 8 \times 36$  feet deep, for ventilation.

#### LEHIGH VALLEY COAL COMPANY

William A. Colliery.—A rock tunnel was driven from the middle to the upper-split of Red Ash vein, at a point near foot of long slope, just west of the Lackawanna river. It was put at this point in order that the coal in this vein between the river and shaft could be mined separately from the same vein east of the river, the coal under the river being kept as a barrier or safety pillar. Since the Hallstead mine was flooded a system of silting has been in operation at this mine. All of the finer refuse from breaker, together with the dirt from culm banks on surface, has been silted into the old workings.

The workings along the Hallstead mines have been thoroughly filled from barrier pillar to main gangway. The work is being continued in the old workings along the Pennsylvania Coal Company's line. A slope has been driven from the shaft level to the lowest point in the Flag and Drake tracts. This was for the purpose of saving in haulage, the foot of Long or Main slope being a considerably higher elevation.

The old frame tower on coal shaft has been replaced with a substantial structure of yellow pine.

The steam plant consisting of 18 cylinder, 1 return tubular and 1 return porcupine boiler is being replaced with sterling boilers. This work is now under way, four batteries of sterling boilers being in place.

Babylon Colliery.—A tunnel has been driven from the middle to bottom split of Red Ash vein, near foot of shaft.

#### JERMYN AND COMPANY

Jermyn No. 2.—Slope driven from outside to the Top vein.

Jermyn No. 1.—Installed Jeanesville pump at Jermyn No. 3, 3,500 gallon capacity.

Removed four tubular boilers from Jermyn No. 3 to No. 1 boiler plant, thereby making one plant of tubular boilers instead of heretofore three tubulars and three cylinders at No. 1 and four tubulars at Jermyn No. 3.

A slope 300 feet long was driven from Clark vein to 1st Dunmore vein for ventilation and transportation.

Tunnel driven from No. 1 to Jermyn No. 3 in the Baltimore vein.

#### PENNSYLVANIA COAL COMPANY

The new breaker that was being built in 1903 started up work on February 1, 1904. There is being built at present a new steam plant at the breaker, Sterling boilers, capacity 1,704 horse power, to replace the 900 horse power Babcock and Wilcox boilers, these to be removed elsewhere.

#### ELLIOTT, McCLURE AND COMPANY

Installed rope haulage in the Clark vein. Enlarging the second opening which has resulted in a great improvement in the ventilation. The operation of small pumps and engine in No. 1 Dunmore vein by compressed air.

A new Jeanesville compound duplex pump 17x28x16x36 inch, located in the Clark vein now pumps all the water to the surface.

The cribbing in the up-cast has been replaced by 22 feet of concrete.

They have also erected four stacks 48 inches by 80 feet, furnishing them with good draft for their boilers.

#### DELAWARE AND HUDSON COMPANY

Greenwood No. 2.—Rope haulage road No. 1 driven 1,200 feet to  
9—23—1904

old workings of Greenwood No. 1 in No. 8 drift. Rope haulage road No. 2 driven 300 feet to its limit. No. 2 slope, Checker vein extended 900 feet.

Spring Brook.—No. 2 slope Red Ash vein driven 300 feet to limit of workable coal. No. 1 plane Red Ash vein extended 350 feet.

## Fifth District

LUZERNE COUNTY

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Pittston, Pa., February 28, 1905.

Hon. James E. Roderick, Chief of Department of Mines:

Sir: I have the honor to transmit herewith my annual report as Inspector of Mines for the Fifth Anthracite District for the year ending December 31, 1904.

The report gives the statistical information as required by law, and also a brief description of the fatal and non-fatal accidents that occurred during the year, with other useful information.

Respectfully submitted,

H. McDONALD,  
Inspector.

## SUMMARY OF STATISTICS

Number of collieries, .....	20
Number of mines, .....	50
Number of mines in operation, .....	50
Number of tons of coal shipped to market, .....	4,119,904
Number of tons used at mines for steam and heat, .....	318,534
Number of tons sold to local trade and used by employes, ..	48,277
Number of tons of coal produced, .....	4,486,715
Number of persons employed inside of mines, .....	9,205
Number of persons employed outside, .....	3,402
Number of fatal accidents inside of mines, .....	41
Number of fatal accidents outside, .....	4
Number of non-fatal accidents inside of mines, .....	58
Number of non-fatal accidents outside, .....	8
Number of tons of coal produced per fatal accident inside, ..	109,432
Number of persons employed per fatal accident inside, ...	225
Number of persons employed per fatal accident outside, ...	851
Number of persons employed per non-fatal accident in- side, .....	159
Number of persons employed per non-fatal accident out- side, .....	425
Number of wives made widows by fatal accidents, .....	22
Number of children orphaned by fatal accidents, .....	59
Number of steam locomotives used inside of mines, .....	1
Number of steam locomotives used outside, .....	30
Number of compressed air locomotives used inside, .....	7
Number of electric motors used inside, .....	7
Number of fans used for ventilation, .....	51
Number of gaseous mines in operation, .....	30
Number of non-gaseous mines in operation, .....	20
Number of new mines opened, .....	10
Number of old mines abandoned, .....	1

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TABLE A

## PRODUCTION OF COAL

Names of Operators	Tons
Pennsylvania Coal Company, .....	1,587,796
Lehigh Valley Coal Company, .....	1,253,041
Hillside Coal and Iron Company, .....	494,997
Delaware and Hudson Company, .....	467,556
Hudson Coal Company, .....	386,142
Traders' Coal Company, .....	126,714
Avoca Coal Company, Limited, .....	98,307
Clarence Coal Company, .....	72,162
	<hr/>
Total, .....	4,486,715
	<hr/> <hr/>

## Production by Counties

Luzerne, .....	4,486,715
	<hr/> <hr/>

TABLE B.—Fatal and non-fatal accidents inside and outside of mines; number of tons of coal produced per accident; number of persons employed; number employed per accident

Names of Operators	Fatal Accidents			Non-Fatal Accidents			Tons of coal produced per fatal accident inside	Tons of coal produced per non-fatal accident inside	Number of employees inside	Number of employees outside	Total number of employees	Number of employees inside per fatal accident	Number of employees outside per fatal accident	Number of employees inside per non-fatal accident	Number of employees outside per non-fatal accident
	Inside	Outside	Total	Inside	Outside	Total									
Pennsylvania Coal Co.,	16	1	17	32	3	35	59,237	49,619	3,397	954	4,351	212	954	106	318
Lehigh Valley Coal Co.,	10	3	13	10	4	14	125,301	125,304	2,179	920	3,094	218	307	218	230
Hillside Coal and Iron Co.,	6	..	6	5	..	5	92,439	98,999	1,107	544	1,651	185	..	221	..
Delaware and Hudson Co.,	1	..	1	1	..	1	467,556	155,852	864	373	1,237	864	..	288	..
Hudson Coal Co.,	5	..	5	3	..	3	77,228	55,163	973	349	1,322	195	..	139	..
Tredgers' Coal Co.,	1	..	1	1	..	1	126,714	126,714	250	84	334	250	..	250	..
Clarence Coal Co.,	2	..	2	1	1	1	36,051	..	173	73	246	87	..	..	73
Avoca Coal Co., Limited,	..	..	..	..	..	..	..	..	252	105	367	..	..	..	..
Totals and averages for district, ....	41	4	45	58	8	66	109,432	73,909	9,205	3,402	12,607	225	851	159	425

TABLE C.—Classification of fatal accidents inside and outside of mines

	Inside										Outside						Grand total								
	By Falls of		Roof	By mine cars	By explosion of gas	Smothered by gas	By powder and dynamite	By blasts, etc.	By Falling Into			Crushed at batteries	By mules	Suffocated by coal, etc.	Miscellaneous causes	Total inside		By cars	By machinery	By suffocation	By boiler explosions	Miscellaneous causes	Total outside		
									Shafts	Slopes	Manways, breasts, etc.														
January			1	1			1									4							1	1	4
February																4									4
March	1			1				1								4									4
April		1														4								1	4
May	1															4									4
June	1		2													3	1								4
July																1									1
August	1	1	1	3		1			1							6	1		1				2	8	1
September			1													4									4
October																4									4
November		3	1													4									4
December																1									1
Totals	4	2	16	7	5	2	4	1							41	2	1					1	4	45	



TABLE B.—Occupations of persons killed or fatally injured inside and outside of mines

	Inside										Outside										Grand total
	Mine foremen	Assistant mine foremen	Fire bosses and assistants	Miners	Miners' helpers	Porters and runners	Team-boys and helpers	Timbermen	Company men	All other employees	Total inside	Superintendents	Foremen	Blacksmiths and carpenters	Linemen and firemen	State pickers (boys)	State pickers (men)	Book-keepers and clerks	All other employees	Total outside	
January				1	1		1				4								1		4
February				1	1						4										4
March				1	1						4										4
April				1	1						4										4
May				1	1						4								1		5
June				1	1						4								1		5
July				1	1						4										4
August				1	1						4										4
September				1	1						4						1		1		6
October				1	1						4										4
November				1	1						4										4
December				1	1						4										4
Totals				19	16	1	1	1	4	—	41	—	—	—	—	—	1	—	3	4	45



TABLE F.—Occupations of persons injured inside and outside of mines

	Inside										Outside										Grand total
	Mine foremen	Assistant mine foremen	Fire bosses and assistants	Miners	Miners' laborers	Drivers and runners	Door-boys and helpers	Pumpmen	Company men	All other employees	Total inside	Superintendents	Foremen	Blacksmiths and carpenters	Engineers and firemen	State pickers (boys)	State pickers (men)	Book-keepers and clerks	All other employees	Total outside	
January	1			1	3	1	1				5									3	3
February					1						3										
March					1						3										
April					1						3										
May					1		2				3					1					1
June					1	1					3					1					1
July					1	1					3					1					1
August	1				1	1					3										3
September					1	1	1				3									1	1
October					1	2	1				4										
November					4	1					5						1				6
December					4	1					5										5
Totals	1			17	15	5	3		3	4	52					2	1		3		66

TABLE G.—Nationality of Persons Killed or Fatally Injured Inside and Outside of Mines.

	American	Welsh	Scotch	Irish	Polish	Italian	Slavonian	Lithuanian	Austrian	Russian	Totals
January, .....	2				1				1		4
February, .....	2		1	1			1				5
March, .....						1			1		4
April, .....					2					2	4
May, .....						1			1	1	3
June, .....	1			1	2	1			1		6
July, .....					1						1
August, .....							1				1
September, .....	1				2	1	1	1			6
October, .....					1	5					6
November, .....		1						1			4
December, .....					1						1
Totals, .....	8	1	1	2	10	10	2	3	5	3	45

TABLE H.—Nationality of Persons Injured Inside and Outside of Mines

	American	Scotch	Irish	German	Polish	Italian	Slavonian	Lithuanian	Austrian	Russian	Totals
January, .....	4				2	1				1	8
February, .....					1		1				2
March, .....						2			1		3
April, .....	1				1			1		2	5
May, .....			2			2				1	7
June, .....					1	1		1			4
July, .....	2			1	1	1		2			7
August, .....	1	1	1	2				1			6
September, .....						2					2
October, .....	1		1		1				1		4
November, .....			1			1	1			1	4
December, .....	2				3	1		2			11
Totals, .....	19	1	5	3	10	12	2	7	2	5	66

TABLE I.—Operators and mines, kind of openings, type and size of fans, size of furnaces, volume of air produced by fan or furnace per minute, number of splits of air currents, number of persons employed inside, and quantity of air produced for each person

Names of Operators and Mines																
Names of Operators and Mines	Kind of opening	Gaseous or non-gaseous	Method of ventilation	Diameter of fan in feet	Width of blades in feet	Length of blades in feet	Number of revolutions per minute	Water gauge developed in inches	Name of fan	Power used	Number of splits of air currents	Number of cubic feet of air per minute entering the mine at inlet	Total quantity of air per minute circulating in all the splits in cubic feet	Number of cubic feet per minute passing out at outlet	Number of persons employed	Average number of cubic feet per minute provided for each person
Pennsylvania Coal Co.																
Number 1.	Shaft.	Gaseous.	Fan.	27	6.5	6.5	48	8	Guibal.	Steam.	1	82,020	72,640	81,329	29.4	301
Number 2.	Shaft.	Gaseous.	Fan.	29	6.5	6.5	46	9	Guibal.	Steam.	1	84,325	76,450	81,669	155	493
Number 3.	Shaft.	Gaseous.	Fan.	29	6.5	6.5	46	1	Guibal.	Steam.	1	79,815	71,315	81,426	225	318
Number 4.	Shaft.	Gaseous.	Fan.	29	6.5	6.5	46	1	Guibal.	Steam.	1	79,815	71,315	81,426	225	318
Hoyle.	Shaft.	Gaseous.	Fan.	29	6.5	6.5	46	1.7	Guibal.	Steam.	1	141,310	132,260	134,380	180	339
Number 5.	Shaft.	Gaseous.	Fan.	29	6.5	6.5	46	1	Guibal.	Steam.	1	97,209	67,160	103,360	233	507
Number 6.	Shaft.	Gaseous.	Fan.	29	6.5	6.5	46	1	Guibal.	Steam.	1	174,000	58,400	80,300	254	325
Number 7.	Shaft.	Gaseous.	Fan.	29	6.5	6.5	46	1.1	Guibal.	Steam.	1	116,337	78,534	118,406	171	357
Number 8.	Shaft.	Gaseous.	Fan.	29	6.5	6.5	46	1.1	Guibal.	Steam.	1	134,337	78,534	118,406	171	357
Number 9.	Shaft.	Gaseous.	Fan.	29	6.5	6.5	46	1.5	Guibal.	Steam.	1	134,337	78,534	118,406	171	357
Number 10.	Shaft.	Gaseous.	Fan.	29	6.5	6.5	46	1.5	Guibal.	Steam.	1	134,337	78,534	118,406	171	357
Number 11.	Shaft.	Gaseous.	Fan.	29	6.5	6.5	46	1.5	Guibal.	Steam.	1	134,337	78,534	118,406	171	357
Number 12.	Tunnel.	Gaseous.	Fan.	17	5	5	80	1.5	Guibal.	Steam.	1	114,300	109,600	118,900	229	330
Lehigh Valley Coal Co.																
Prospect.	Shaft.	Gaseous.	2 Fans.	26	9	8	72	1.8	Guibal.	Steam.	1	111,515	96,760	29,160	130	496
Grakwood.	Shaft.	Gaseous.	Fan.	26	9	8	43	1.6	Guibal.	Steam.	1	107,679	150,000	185,400	334	441
McVale.	Slope.	Gaseous.	Fan.	15	6.6	3.3	66	1.2	Guibal.	Steam.	1	85,700	78,800	105,200	225	348
Hillbath.	Slope.	Gaseous.	2 Fans.	15	4.6	3.8	80	1.2	Guibal.	Steam.	1	84,190	72,890	89,100	118	492
Wyoming.																
Henry.	Shaft.	Gaseous.	Fan.	25	7	6	47	1.3	Guibal.	Steam.	1	107,800	91,210	129,480	207	441
Henry East.	Shaft.	Gaseous.	Fan.	30	10	8	50	1.3	Guibal.	Steam.	1	136,220	127,420	136,427	211	435
Henry West.	Shaft.	Gaseous.	Fan.	30	10	8	50	1.3	Guibal.	Steam.	1	136,220	127,420	136,427	211	435
Heidelberg Number 2.	Slope.	Non-gas.	Steam jet.	20	6.4	5.1	75	1.4	Guibal.	Steam.	1	66,600	66,600	77,700	188	344
Heidelberg Number 3.	Slope.	Gaseous.	Fan.	16	4	4	75	1.4	Guibal.	Steam.	1	66,600	66,600	77,700	188	344
Heidelberg Marcy.	Slope.	Non-gas.	Fan.	19	4	3	100	1.8	Guibal.	Steam.	1	41,308	37,608	42,608	127	363

\*Idle.

Held in charge	Tunnel	Non-gas.	Fan	12	4	2	3	5	6	Gubbal	Steam	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248	249	250	251	252	253	254	255	256	257	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	280	281	282	283	284	285	286	287	288	289	290	291	292	293	294	295	296	297	298	299	300	301	302	303	304	305	306	307	308	309	310	311	312	313	314	315	316	317	318	319	320	321	322	323	324	325	326	327	328	329	330	331	332	333	334	335	336	337	338	339	340	341	342	343	344	345	346	347	348	349	350	351	352	353	354	355	356	357	358	359	360	361	362	363	364	365	366	367	368	369	370	371	372	373	374	375	376	377	378	379	380	381	382	383	384	385	386	387	388	389	390	391	392	393	394	395	396	397	398	399	400	401	402	403	404	405	406	407	408	409	410	411	412	413	414	415	416	417	418	419	420	421	422	423	424	425	426	427	428	429	430	431	432	433	434	435	436	437	438	439	440	441	442	443	444	445	446	447	448	449	450	451	452	453	454	455	456	457	458	459	460	461	462	463	464	465	466	467	468	469	470	471	472	473	474	475	476	477	478	479	480	481	482	483	484	485	486	487	488	489	490	491	492	493	494	495	496	497	498	499	500	501	502	503	504	505	506	507	508	509	510	511	512	513	514	515	516	517	518	519	520	521	522	523	524	525	526	527	528	529	530	531	532	533	534	535	536	537	538	539	540	541	542	543	544	545	546	547	548	549	550	551	552	553	554	555	556	557	558	559	560	561	562	563	564	565	566	567	568	569	570	571	572	573	574	575	576	577	578	579	580	581	582	583	584	585	586	587	588	589	590	591	592	593	594	595	596	597	598	599	600	601	602	603	604	605	606	607	608	609	610	611	612	613	614	615	616	617	618	619	620	621	622	623	624	625	626	627	628	629	630	631	632	633	634	635	636	637	638	639	640	641	642	643	644	645	646	647	648	649	650	651	652	653	654	655	656	657	658	659	660	661	662	663	664	665	666	667	668	669	670	671	672	673	674	675	676	677	678	679	680	681	682	683	684	685	686	687	688	689	690	691	692	693	694	695	696	697	698	699	700	701	702	703	704	705	706	707	708	709	710	711	712	713	714	715	716	717	718	719	720	721	722	723	724	725	726	727	728	729	730	731	732	733	734	735	736	737	738	739	740	741	742	743	744	745	746	747	748	749	750	751	752	753	754	755	756	757	758	759	760	761	762	763	764	765	766	767	768	769	770	771	772	773	774	775	776	777	778	779	780	781	782	783	784	785	786	787	788	789	790	791	792	793	794	795	796	797	798	799	800	801	802	803	804	805	806	807	808	809	810	811	812	813	814	815	816	817	818	819	820	821	822	823	824	825	826	827	828	829	830	831	832	833	834	835	836	837	838	839	840	841	842	843	844	845	846	847	848	849	850	851	852	853	854	855	856	857	858	859	860	861	862	863	864	865	866	867	868	869	870	871	872	873	874	875	876	877	878	879	880	881	882	883	884	885	886	887	888	889	890	891	892	893	894	895	896	897	898	899	900	901	902	903	904	905	906	907	908	909	910	911	912	913	914	915	916	917	918	919	920	921	922	923	924	925	926	927	928	929	930	931	932	933	934	935	936	937	938	939	940	941	942	943	944	945	946	947	948	949	950	951	952	953	954	955	956	957	958	959	960	961	962	963	964	965	966	967	968	969	970	971	972	973	974	975	976	977	978	979	980	981	982	983	984	985	986	987	988	989	990	991	992	993	994	995	996	997	998	999	1000	1001	1002	1003	1004	1005	1006	1007	1008	1009	1010	1011	1012	1013	1014	1015	1016	1017	1018	1019	1020	1021	1022	1023	1024	1025	1026	1027	1028	1029	1030	1031	1032	1033	1034	1035	1036	1037	1038	1039	1040	1041	1042	1043	1044	1045	1046	1047	1048	1049	1050	1051	1052	1053	1054	1055	1056	1057	1058	1059	1060	1061	1062	1063	1064	1065	1066	1067	1068	1069	1070	1071	1072	1073	1074	1075	1076	1077	1078	1079	1080	1081	1082	1083	1084	1085	1086	1087	1088	1089	1090	1091	1092	1093	1094	1095	1096	1097	1098	1099	1100	1101	1102	1103	1104	1105	1106	1107	1108	1109	1110	1111	1112	1113	1114	1115	1116	1117	1118	1119	1120	1121	1122	1123	1124	1125	1126	1127	1128	1129	1130	1131	1132	1133	1134	1135	1136	1137	1138	1139	1140	1141	1142	1143	1144	1145	1146	1147	1148	1149	1150	1151	1152	1153	1154	1155	1156	1157	1158	1159	1160	1161	1162	1163	1164	1165	1166	1167	1168	1169	1170	1171	1172	1173	1174	1175	1176	1177	1178	1179	1180	1181	1182	1183	1184	1185	1186	1187	1188	1189	1190	1191	1192	1193	1194	1195	1196	1197	1198	1199	1200	1201	1202	1203	1204	1205	1206	1207	1208	1209	1210	1211	1212	1213	1214	1215	1216	1217	1218	1219	1220	1221	1222	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TABLE 1.—Operators, location of collieries, railroads, etc.

Names of Operators and Collieries	County	Name of General Superintendent	Post Office	Name of Superintendent	Post Office	Railroad to Mine
Pennsylvania Coal Co. Number 8, .....	Luzerne,.....	Wm. A. May, General Manager Wm. W. Inglis.	Scranton, .....	Wm. P. Jennings,	West Pittston, Erle	
Ewen, .....				Henry F. McMillan,		
Number 6, .....				Henry F. McMillan,		
Number 14, .....				Wm. P. Jennings,		
Number 14, .....				Henry F. McMillan,		
Number 6 washery, .....				Henry F. McMillan,		
Number 8 washery, .....				Wm. P. Jennings,		
Lehigh Valley Coal Co. Prospect, .....	Luzerne,.....	S. D. Warriner, General Manager.	Wilkes-Barre, .....	F. C. Zerbey, .....	Wilkes-Barre, .....	Lehigh Valley
Heidelberg No. 2, .....						
Heidelberg No. 1, .....						
Mineral Spring, .....						
Henry washery, .....						
Hillside Coal and Iron Co. Consolidated, .....	Luzerne,.....	Wm. A. May, General Manager V. L. Peterson.	Scranton, .....	E. D. Caryl, .....	Pittston, .....	Erle
Butler, .....						
Fernwood, .....						
Boston washery, .....						
Delaware and Hudson Co. Number 5, .....	Luzerne,.....	C. C. Rose, .....	Scranton, .....	E. R. Pettebone, .....	Scranton, .....	Delaware and Hudson
Delaware, .....						
				E. R. Pettebone, .....	Scranton, .....	Delaware and Hudson

Hudson Coal Co.	Luzerne,.....	C. C. Rose, ..	Scranton, .....	E. R. Pettebone,...	Scranton, .....	Delaware and Hudson
Pine Ridge, .....	Luzerne,.....	Solomon Desble, .....	Avoca, .....	.....	.....	New York and Western
Laurel Run, .....	Luzerne,.....	W. H. Hollister, .....	Avoca, .....	A. B. Law, .....	Pittston, .....	Lehigh Valley and Erie
Lafin, .....	Luzerne,.....	C. B. Sturges, .....	Scranton, .....	N. A. James, .....	Yates, .....	Erie
Traders' Coal Co.	Luzerne,.....					
Ridgewood, .....	Luzerne,.....					
Avoca Coal Co., Limited	Luzerne,.....					
Avoca, .....	Luzerne,.....					
Clarence Coal Co.	Luzerne,.....					
Clarence, .....	Luzerne,.....					



TABLE 2.—Number of tons of coal mined, number of days worked, number of persons employed, number killed and injured, quantity of powder and dynamite used, etc.

Names of Operatives and Collieries		County		Number of tons of coal shipped to market	Number of tons used at collieries for steam and heat	Number of tons sold to local trade and used by employees	Total production of coal in tons	Number of days worked, (Totals are averages, not including washeries)	Number of employees	Number of fatal accidents	Number of non-fatal accidents	Number of kegs of powder used	Number of pounds of dynamite used	Number of horses and mules
Tennies Valley Coal Co.		Luzerne,		175,294	2,710	2,081	178,241	134	4,171	1	3	5,831	752	54
Number 8,	.....	Luzerne,	.....	311,494	5,988	4,681	320,441	174	5,174	1	3	36,178	11,795	89
Ewen,	.....	Luzerne,	.....	158,756	2,338	1,844	160,494	103	3,141	0	0	4,178	10,871	124
Number 6,	.....	Luzerne,	.....	258,759	4,538	3,416	262,497	59	712	0	0	4,903	3,841	171
Nunber 9,	.....	Luzerne,	.....	453,475	9,550	1,116	462,891	175	4,311	10	16	18,887	22,801	118
Number 11,	.....	Luzerne,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Totals,	.....	Luzerne,	.....	1,151,240	34,788	17,772	1,168,428	172	4,311	17	35	50,849	71,533	454
Number 6 washery,	.....	Luzerne,	.....	26,379	2,199	.....	28,498	31	.....	.....	.....	.....	.....	.....
Number 8 washery,	.....	Luzerne,	.....	55,752	3,775	.....	59,497	65	.....	.....	.....	.....	.....	.....
Totals,	.....	Luzerne,	.....	29,211	5,974	.....	35,187	17	.....	.....	.....	.....	.....	.....
Lehigh Valley Coal Co.		Luzerne,		1,261,842	29,781	17,772	1,280,796	172	4,351	17	35	50,849	51,583	454
Prospect,	.....	Luzerne,	.....	746,174	18,461	1,808	834,425	277	1,872	12	11	24,736	19,669	215
Heidelberg No. 1,	.....	Luzerne,	.....	30,793	1,795	5,219	37,697	108	582	1	.....	1,076	1,803	43
Heidelberg No. 2,	.....	Luzerne,	.....	13,496	1,791	.....	15,267	108	582	.....	.....	2,788	7,337	63
Mineral Spring,	.....	Luzerne,	.....	1,9,025	21,119	.....	40,644	173	576	.....	.....	6,425	19,048	40
Totals,	.....	Luzerne,	.....	1,077,471	38,077	7,792	1,113,412	578	3,037	13	11	33,901	42,840	301
Henry Washery,	.....	Luzerne,	.....	36,429	.....	.....	36,429	92	65	.....	.....	.....	.....	6
Totals,	.....	Luzerne,	.....	1,113,893	6,474	7,792	1,127,944	223	3,199	12	11	40,694	132,016	357

Hillsie Coal and Iron Co.									
Consolidated, .....	160,798	9,468	1,847	172,112	211	506	2	1	64
Bath, .....	152,578	13,729	1,564	167,671	171	662	1	1	59
Fernwood, .....	119,299	7,576	923	127,898	297	777	2	2	54
	422,675	29,573	4,334	457,522	166	1,945	6	5	108
Boston Washery, .....									
	26,649	765	.....	27,415	32	45	.....	.....	.....
Totals, .....	459,325	31,338	4,334	494,997	196	1,651	6	5	158
Delaware and Hudson Co.									
Number 5, .....	274,147	45,767	963	299,883	211	889	1	3	118
Delaware, .....	116,662	26,836	3,241	146,739	171	514	.....	.....	46
Totals, .....	390,749	72,603	4,204	467,556	192	1,297	1	3	164
Hudson Coal Co.									
Pine Ridge, .....	298,718	22,971	.....	241,521	225	777	4	1	69
Laural Run, .....	18,262	5,821	5,037	29,115	142	273	.....	4	49
Larkin, .....	6,597	15,291	3,729	85,496	157	373	1	2	51
Totals, .....	323,577	44,083	7,615	386,112	175	1,292	5	7	169
Trotter's Coal Co.									
Ridgewood, .....	115,376	7,370	4,658	127,744	269	334	1	1	39
Aveca Coal Co., Limited									
Aveca, .....	51,310	7,900	6,497	65,707	210	367	.....	.....	59
Clarence Coal Co.									
Clarence, .....	65,514	6,040	618	72,172	223	216	2	1	29
Grand totals, .....	4,119,601	318,534	48,277	4,486,715	2,7	12,697	45	66	1,452

TABLE 2.—Recapitulation

Pennsylvania Coal Co., .....	1,331,629	40,584	15,582	1,387,796	172	4,351	17	37	59,849	51,583	454
Lehigh Valley Coal Co., .....	88,443	6,362	.....	94,805	27	3,009	12	14	36,604	132,046	397
Hillsie Coal and Iron Co., .....	45,315	31,318	4,334	494,997	196	1,651	6	5	21,822	47,882	168
Delaware and Hudson Co., .....	390,749	72,603	4,204	467,556	192	1,297	1	3	17,288	3,325	194
Hudson Coal Co., .....	323,577	44,083	7,615	386,112	175	1,292	5	7	22,311	54,430	193
Miscellaneous companies, .....	266,180	26,300	11,763	297,183	238	841	2	2	20,244	14,850	109
Totals, .....	4,119,601	318,534	48,277	4,486,715	2,7	12,697	45	66	178,224	303,736	1,452

TABLE 2.—Continued

Names of Operators	County	Number of Boilers				Locomotives			Total horse power	Number of steam engines of all classes	Total horse power	Number of pumps delivering water to surface	Capacity in gallons per minute	Quantity delivered to surface per minute—gallons	Number of electric dynamos	Number of air compressors
		Cylindrical	Horse power	Tubular	Horse power	Steam	Air	Electric								
Pennsylvania Coal Co., .....	Luzerne, .....	6	249	54	8,830	9,070	7	.....	9,070	127	7,120	13	14,475	8,140	.....	7
Lehigh Valley Coal Co., .....	Luzerne, .....	1	36	35	6,850	6,889	12	1	6,889	99	8,625	19	12,440	8,628	.....	6
Hillside Coal and Iron Co., .....	Luzerne, .....	16	516	29	2,870	3,280	8	.....	3,280	41	2,240	8	3,556	1,500	3	2
Belaware and Hudson Co., .....	Luzerne, .....	9	2,115	15	2,750	5,165	3	2	5,165	9	7,175	1	3,000	1,800	2	4
Hudson Coal Co., .....	Luzerne, .....	19	199	19	3,375	3,375	1	.....	3,375	17	3,413	4	4,500	2,000	1	4
Traders' Coal Co., .....	Luzerne, .....	8	199	1	95	255	.....	.....	255	10	215	2	600	300	.....	1
Avoca Coal Co., Limited, .....	Luzerne, .....	1	50	.....	700	750	.....	.....	750	7	400	.....	1,600	1,200	.....	1
Clarence Coal Co., .....	Luzerne, .....	.....	.....	3	250	250	.....	.....	250	1	219	.....	400	100	.....	.....
Totals, .....	.....	142	3,365	157	25,720	29,025	31	7	29,025	447	28,967	51	40,374	24,368	6	24

TABLE 3.—Number of each class of employees inside and outside of mines

Names of Operators and Col- lieries	County	Inside										Outside										Grand totals inside and outside
		Mine foremen	Assistant mine foremen	Fire bosses and assistants	Miners	Miners' laborers	Drivers and runners	Door boys and helpers	Pumpmen	Company men	All other employees	Total inside	Superintendents	Foremen	Blacksmiths and carpenters	Engineers and firemen	State pickers (boys)	State pickers (men)	Book-keepers and clerks	All other employees	Total outside	
Pennsylvania Coal Co.																						
Number 8, .....	Luzerne, .....	1	1	1	127	125	50	9	.....	15	6	338	.....	1	4	12	23	24	4	46	124	462
Ewert, .....	Luzerne, .....	3	6	3	258	258	84	20	4	45	58	756	.....	1	14	16	72	36	2	90	211	961
Number 6, .....	Luzerne, .....	3	3	3	286	277	121	18	1	66	22	737	.....	1	24	23	71	33	4	85	241	998
Number 10, .....	Luzerne, .....	2	3	3	196	187	83	12	3	42	5	533	.....	1	8	22	60	29	1	59	180	713
Number 14, .....	Luzerne, .....	2	6	6	357	321	143	17	3	110	24	1,013	.....	1	12	16	32	25	2	119	198	1,211
Totals, .....	.....	11	19	1,291	1,193	481	76	11	282	115	3,397	.....	5	62	89	248	147	13	390	954	4,351	
Lehigh Valley Coal Co.																						
Prospect, .....	Luzerne, .....	7	2	16	487	461	186	41	12	33	210	1,455	.....	2	29	54	29	15	6	272	417	1,872
Heidelberg No. 2, .....	Luzerne, .....	1	1	1	69	52	22	3	4	.....	24	176	.....	1	5	14	40	29	3	24	116	292
Heidelberg No. 1, .....	Luzerne, .....	1	1	1	60	45	30	1	2	.....	30	170	.....	1	6	9	45	3	3	57	124	291
Mineral Spring, .....	Luzerne, .....	2	3	153	123	44	13	6	.....	.....	34	378	.....	1	12	28	55	17	3	102	198	576
Henry washery, .....	Luzerne, .....	11	2	21	769	681	282	58	24	33	298	2,179	.....	5	62	105	149	64	15	455	855	3,034
Totals, .....	.....	11	2	21	763	681	282	58	24	33	298	2,179	.....	5	62	110	155	64	16	508	920	3,099

TABLE 3.—Continued

Names of Operators and Col- lieries	County	Inside										Outside										Grand totals inside and outside
		Mine foremen	Assistant mine foremen	Pit bosses and assistants	Miners	Miners' laborers	Drivers and runners	Door boys and helpers	Pumpmen	Company men	All other employes	Total inside	Superintendents	Foremen	Blacksmiths and carpenters	Engineers and firemen	State pickers (boys)	State pickers (men)	Book-keepers and clerks	All other employes	Total outside	
Hillside Coal and Iron Co. Consolidated, .....	Luzerne, .....	2	2	1	168	143	70	6	2	.....	35	426	...	1	7	7	33	11	2	79	140	566
	Butler, .....	1	1	1	170	113	45	4	3	82	7	427	...	1	10	21	80	12	4	106	235	682
	Fernwood, .....	1	1	1	161	73	42	7	4	.....	26	254	...	1	7	11	31	14	1	58	123	377
	Totals, .....	5	5	1	439	329	157	17	9	82	68	1,107	1	3	24	39	144	37	7	243	498	1,606
Boston washery, .....	Luzerne, .....	5	1	1	439	329	137	17	9	82	68	1,107	1	3	24	42	144	37	8	285	544	1,651
	Totals, .....	5	1	1	439	329	137	17	9	82	68	1,107	1	3	24	42	144	37	8	285	544	1,651
	Delaware and Hudson Co. Number 5, .....	3	1	8	211	181	61	19	7	68	60	619	.....	2	23	28	39	56	4	112	264	883
Hudson Coal Co. Pine Ridge, .....	Luzerne, .....	1	1	3	82	80	25	10	2	26	15	245	.....	1	5	14	33	8	1	47	100	354
	Laurel Run, .....	1	1	1	119	99	31	5	3	11	2	272	.....	1	6	9	21	22	1	41	101	373
	Lafin, .....	3	2	8	362	333	116	16	7	73	53	973	.....	3	17	36	66	77	3	147	349	1,322
	Totals, .....	3	2	8	362	333	116	16	7	73	53	973	.....	3	17	36	66	77	3	147	349	1,322
Traders' Coal Co. Ridgewood, .....	Luzerne, .....	2	1	2	110	53	49	11	2	18	2	250	1	1	4	8	28	6	3	33	84	334



Avoca Coal Co., Limited.	1	1	1	95	30	40	9	3	10	12	262	1	1	8	7	29	6	3	50	105	367
Avoca, .....	1	1	1	59	67	16	6	2	11	10	173	1	1	5	4	28	12	.....	22	73	246
Clarence, .....	1	1	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Clarence Coal Co.	1	1	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Grand totals, .....	38	9	63	3,391	2,952	1,227	222	67	603	633	9,205	4	22	210	338	770	413	51	1,594	3,402	12,607

TABLE 3.—Recapitulation

Pennsylvania Coal Co., .....	11	2	19	1,264	1,138	481	76	11	282	115	3,397	.....	5	62	83	248	147	12	306	954	4,251
Lehigh Valley Coal Co., .....	11	2	19	759	681	282	58	24	33	298	2,179	.....	5	62	110	155	64	16	508	920	3,093
Hillsdale Coal and Iron Co., .....	5	.....	1	439	329	137	17	9	82	68	1,107	1	3	24	42	144	37	8	285	544	1,657
Delaware and Hudson Co., .....	4	2	11	293	261	86	29	9	94	75	864	.....	3	28	42	72	64	5	159	373	1,237
Hudson Coal Co., .....	2	2	8	362	333	116	16	7	73	53	973	.....	3	17	36	66	77	3	147	349	1,322
Miscellaneous companies, .....	4	3	3	261	210	165	26	7	39	24	685	3	3	17	19	85	24	6	165	262	947
Totals, .....	38	9	63	3,391	2,952	1,227	222	67	603	633	9,205	4	22	210	338	770	413	51	1,594	3,402	12,607





TABLE 4.—Fatal accidents inside and outside of mines

Date of accident	Name of Person	Nationality	Occupation	Age	Married or single	Number of widows	Number of orphans	Name of Mine	County	Nature and Cause of Accident in Brief
Jan.	4 H. Franklin Turnbach,	American,	Door tender,	56	M.	1	3	Clarence slope,	Luzerne,	Instantly killed by trip of loaded cars coming down grade while opening his door.
9	Michael Dougherty,	American,	Miner,	25	S.	.....	.....	No. 9 shaft,	Luzerne,	Killed by fall of rock while drawing out pillars.
13	Frank Godula,	Austrian,	Miner,	27	M.	1	.....	Hoyte shaft,	Luzerne,	Killed while thawing out a stick of dynamite with his lamp.
30	John Patroskie,	Polish,	Laborer,	35	M.	1	4	Henry,	Luzerne,	Killed while helping his miner bar down rider coal by rock falling on him.
Feb.	15 Patrick Monahan,	Irish,	Footman,	47	S.	.....	.....	Consolidated shaft,	Luzerne,	These two footmen were killed by a trip of loaded mine cars running into case pit.
15	Hugh Graham,	Scott,	Footman,	27	S.	.....	.....	Consolidated shaft,	Luzerne,	
20	Elisha Turner,	American,	Machinist,	26	S.	.....	.....	No. 14 Outside,	Luzerne,	Fatally scalded by stepping into a box where steam from the boilers was blown off. Died February 22. Outside.
22	James Coffey,	American,	Miner,	25	S.	.....	.....	No. 14 tunnel,	Luzerne,	Fatally injured by fall of rock while drilling a hole at face of breast. Died February 24.
24	Barney Meealja,	Slavonian,	Laborer,	30	S.	.....	.....	Hillman slope,	Luzerne,	Killed by an explosion of gas. A large piece of rock fell which broke down the practice which cut the ventilation from the face.
March	10 Samuel Rubino,	Italian,	Miner,	30	M.	1	.....	Ladlin shaft,	Luzerne,	Killed by a blast he was firing. He thought it had missed and returned to face when it exploded on him.
15	John Ludwick,	Austrian,	Miner,	30	M.	1	5	Pine Ridge shaft,	Luzerne,	Killed by fall of rock while in the act of barring it down.
19	Michael Reddington,	American,	Laborer,	20	S.	.....	.....	No. 14 tunnel,	Luzerne,	Killed by fall of top coal while barring loose coal from it.
April	26 Patrick McDonnell,	American,	Miner,	38	S.	.....	.....	No. 8 shaft,	Luzerne,	Killed by fall of rock at face of breast.
6	John Yausonkis,	Russian,	Miner,	30	S.	.....	.....	No. 14 shaft,	Luzerne,	Fatally burned by an explosion of gas by going into an abandoned breast.
7	Joseph Poche,	Polish,	Laborer,	35	S.	.....	.....	Consolidated shaft,	Luzerne,	Killed by fall of rock. A blast had discharged a prop allowing the rock to fall.
19	Joseph Givloski,	Polish,	Miner,	45	M.	1	3	No. 6 shaft,	Luzerne,	Killed by a blast he was firing. Cut the match.

TABLE 4.—Continued

Date of accident	Name of Person	Nationality	Occupation	Age	Married or single	Number of widows	Number of orphans	Name of Mine	County	Nature and Cause of Accident in Brief
April 23	John Jinglewsky, .....	Russian, ...	Miner, .....	25	S. ....	.....	.....	Midvale slope, .....	Luzerne, ..	Killed by fall of fire clay while mining out loose coal from under it.
May 5	Joseph Zarah, .....	Italian, ....	Miner, .....	30	S. ....	.....	.....	Fernwood slope, .....	Luzerne, ..	Killed by a fall of rock at face of breast.
	Joseph Adamvitch, ....	Austrian, ....	Laborer, ...	40	S. ....	.....	.....	Pine Ridge shaft, ....	Luzerne, ..	Killed by a fall of top coal at face of breast.
14	Michael Jamkaw, .....	Russian, ...	Co. laborer, ...	40	M. 1	2	.....	Prospect breaker, ....	Luzerne, ..	Killed by falling between railroad cars on branch above the breaker. Outside.
June 6	Patrick Dougherty, ...	Irish, .....	Co. laborer, ...	48	M. 1	1	.....	No. 14 shaft, .....	Luzerne, ..	Killed by being run over by trip of cars on plane.
	Robert Hewton, .....	American, ...	Shaft footman, .....	23	S. ....	.....	.....	No. 11 shaft, .....	Luzerne, ..	Fatally injured by fall of rock on branch.
23	Wm. Novalk, .....	Polish, .....	Driver, .....	17	S. ....	.....	.....	Pine Ridge shaft, ....	Luzerne, ..	Fatally injured, caught between car and rib. Died same day.
28	Michael Marktick, .....	Austrian, ....	Laborer, ...	24	S. ....	.....	.....	Wyoming shaft, ....	Luzerne, ..	Killed by fall of top rock at face of breast.
29	Beeg Ovear, .....	Italian, ....	Laborer, ...	45	M. 1	4	.....	Fernwood slope, .....	Luzerne, ..	Killed by fall of top coal and rock at face of breast.
29	Wm. Mehalski, .....	Polish, .....	Miner, .....	42	M. 1	6	.....	Ridgewood slope, ....	Luzerne, ..	Fatally injured by fall of top rock. Died same day.
July 28	Jacob Rinskie, .....	Austrian, ...	Miner, .....	33	M. 1	7	.....	Chapman shaft, .....	Luzerne, ..	Killed by fall of rock while robbing pillars.
	Michael Erko, .....	Slavonian, ...	Laborer, ...	31	M. 1	4	.....	Wyoming shaft, ....	Luzerne, ..	Killed by falling down shaft.
Aug. 16	Stanley Dobo, .....	Polish, .....	Laborer, ...	33	M. 1	4	.....	Pine Ridge shaft, ....	Luzerne, ..	Killed by fall of fire clay roof at face of breast.
16	Angelo Gresselo, .....	Italian, ....	Miner, .....	23	S. ....	.....	.....	No. 14 tunnel, .....	Luzerne, ..	Fatally injured by fall of bony coal. Died same day.
Sept. 26	Lawrence Satarlek, ....	Lithuanian, ...	Laborer, ...	27	S. ....	.....	.....	No. 14 shaft, .....	Luzerne, ..	Killed by fall of rock at face of breast.
	Francis Boland, .....	American, ...	Slate picker, ...	14	S. ....	.....	.....	Prospect breaker, ....	Luzerne, ..	Killed by being caught in conveyor line; set his place of work in breaker. Outside.
1	Joseph Kusslacko, .....	Polish, .....	Miner, .....	32	M. 1	.....	.....	Henry shaft, .....	Luzerne, ..	Fatally burned by gas. Died September 4.
14	Michael Michieto, .....	Italian, ....	Laborer, ...	29	S. ....	.....	.....	Clarence slope, ....	Luzerne, ..	Killed by fall of rock at face of breast.
16	Petroness Pater, .....	Italian, ....	Car loader, ...	41	M. 1	2	.....	Heddelburg No. 2 breaker, .....	Luzerne, ..	Fatally injured by being run over by railroad car on branch above breaker. Died same day. Outside.

19	Bathalda Stanto, .....	Italian, ....	Laborer, ...	22	M.	1	1	No. 14 shaft, .....	Luzerne, ..	Fatally injured, caught between two cars. Died same day.
22	Anglo Bufalno, .....	Italian, ....	Miner, .....	32	M.	1	4	No. 14 shaft, .....	Luzerne, ..	This miner and laborer were fatally burned by an explosion of gas by going in face of gangway after being told not to do so.
22	Lockon Diskis, .....	Italian, ....	Laborer, ...	30	M.	1	....	No. 14 shaft, .....	Luzerne, ..	Was killed by fall of rock at September 23, 1905.
28	John Rovezhkis, .....	Polish, ....	Miner, .....	29	S.	....	....	Baltimore tunnel, ....	Luzerne, ..	Diskis died September 23, 1905.
Oct.	3 Chas. Ulukas, .....	Lithuanian, ..	Miner, .....	31	M.	1	4	Wyoming shaft, .....	Luzerne, ..	Fatally injured by a premature blast he was firing. Died October 6.
Nov.	1 James Sayer, .....	Welsh, ....	Co. miner, ..	54	M.	1	1	Midvale slope, .....	Luzerne, ..	Fatally squeezed between car and roof on slope. Died November 13.
15	Frank Rutell, .....	Italian, ....	Laborer, ...	30	M.	1	2	No. 7 shaft, .....	Luzerne, ..	Killed by fall of rock at face of breast.
16	Anthony Tagala, .....	Polish, ....	Laborer, ...	41	M.	1	4	Hillman slope, .....	Luzerne, ..	Fatally injured by fall of rock. Died same day.
23	Joseph Kashuba, .....	Lithuanian, ..	Laborer, ...	22	S.	....	....	No. 9 shaft, .....	Luzerne, ..	Fatally injured by fall of rock. Died same day.
Dec.	22 James Kruger, .....	Polish, ....	Miner, .....	36	M.	1	2	Henry Red Ash shaft, .....	Luzerne, ..	Fatally injured by premature blast he was firing.

TABLE 5.—Non-fatal accidents inside and outside of mines

Date of accident	Name of Person	Nationality	Occupation	Age	Married or single	Name of Mine	County	Nature and Cause of Accident in Brief
Jan.	4 Steve Aldinger, .....	American, ..	Slope headman, ..	21	S.	Coal Brook, .....	Luzerne, ..	Thigh broken, struck by slope rope on head of slope, Outside.
	12 Edward Walsh, .....	American, ..	Laborer, .....	26	S.	No. 14 tunnel, .....	Luzerne, ..	Back bruised by fall of rock while loading car.
	15 John Brown, .....	Polish, ....	Driver, .....	17	S.	Ridge-wood slope, .....	Luzerne, ..	Arm broken, kicked by his mule.
	16 Sullivan Daley, .....	Italian, ....	Laborer, .....	25	S.	No. 9 shaft, .....	Luzerne, ..	Leg bruised; caught between car and prop.
	20 Leroy Smith, .....	American, ..	Brakeman, .....	17	S.	Mineral Spring, .....	Luzerne, ..	Painfully bruised by falling under trip of cars.
	22 Fred Kingley, .....	American, ..	Jig tender, .....	17	S.	Prospect Breaker, .....	Luzerne, ..	Arm cut off, caught in jig chain in breaker, Outside.
Feb.	23 Babasto Balase, .....	Polish, ....	Laborer, .....	26	S.	No. 5 shaft, .....	Luzerne, ..	Leg broken by fall of top coal.
	28 John Stanton, .....	Russian, ....	Miner, .....	25	S.	No. 14 shaft, .....	Luzerne, ..	Leg broken by fall of rock.
	11 Michael Tokash, .....	Polish, ....	Miner, .....	31	M.	Chapman shaft, .....	Luzerne, ..	Nose broken and head cut by rock he was carrying down.
March	24 Thomas Romanowski, ..	Slavonian, ..	Miner, .....	24	S.	Hillman slope, .....	Luzerne, ..	Forehead and hands bruised by gas; he ignited.
	4 Fred Ross, .....	Italian, ....	Laborer, .....	21	S.	Ladin shaft, .....	Luzerne, ..	Face and hands burned by powder while making a cartridge.
	8 Andrew Burnhay, .....	Austrian, ....	Miner, .....	39	M.	Laurel Run slope, .....	Luzerne, ..	Face and hands burned by gas; told by fire boss to keep out.
	19 Lewis Conway, .....	Italian, ....	Miner, .....	25	S.	No. 14 shaft, .....	Luzerne, ..	Severely burned on face and hands in abandoned workings by gas.
April	6 Simon Contalovits, ....	Russian, ....	Laborer, .....	39	S.	No. 14 shaft, .....	Luzerne, ..	Face and hands burned by powder by spark from his lamp.
	14 Stanley Banashek, ....	Polish, ....	Miner, .....	33	M.	Baltimore No. 3, .....	Luzerne, ..	Collar bone broken, struck by car while blocking same.
	18 Draper Puterbaugh, ...	American, ..	Miner, .....	69	M.	Pine Ridge shaft, .....	Luzerne, ..	Leg broken by blast, caused by cutting his match.
	21 John Dinak, .....	Russian, ....	Miner, .....	38	M.	Oakwood shaft, .....	Luzerne, ..	Hips and ankle bruised by fall of rock.
May	25 Joseph Thomas, .....	Lithuanian, ..	Miner, .....	42	M.	No. 14 shaft, .....	Luzerne, ..	Leg cut off while riding between cars.
	2 Neal Gallacher, .....	American, ..	Door boy, .....	16	S.	Baltimore tunnel, .....	Luzerne, ..	Leg under cars.
	5 Charles Novitski, .....	Russian, ....	Miner, .....	33	M.	Hoyle shaft, .....	Luzerne, ..	Leg broken, attempted to jump on moving cars and fell.



5	Barnard Learz,	Italian,	Miner,	30	S.	Fernwood slope,	Luzerne,	Back painfully bruised by fall of rock.
6	Thomas Burns,	American,	Motorman,	24	M.	Hoyte shaft,	Luzerne,	Leg broken. While charging the motor with air the pipe burst.
7	Patrick Queenhan,	Irish,	Door boy,	15	S.	Hoyte shaft,	Luzerne,	Leg broken. Struck by plane rope.
24	Patrick McAndrew,	Irish,	Mason,	46	M.	Consolidated shaft,	Luzerne,	Leg broken by piece of rock rolling on him.
31	Carmel Atoria,	Italian,	Slate picker,	16	S.	No. 6 breaker,	Luzerne,	Arm taken off. Caught in breaker machinery.
June 1	Thomas Hafferty,	American,	Driver,	16	S.	No. 1 shaft,	Luzerne,	Outside. Caught in breaker machinery.
21	Martin Blank,	American,	Shaker tender,	15	S.	Prospect breaker,	Luzerne,	Arm broken by being thrown from the inside barn in mine while taking it to breaker.
21	Patsie Catezone,	Italian,	Laborer,	40	S.	No. 14 tunnel,	Luzerne,	Leg broken. Caught on shaker shaft in breaker.
30	John Gill,	Lithuanian,	Miner,	38	S.	No. 6 shaft,	Luzerne,	Leg broken by fall of rock while helping stand a prop.
July 9	Matzina Simmonetti,	Italian,	Miner,	45	M.	No. 14 shaft,	Luzerne,	Arm broken and hips dislocated by fall of top coal.
13	John Dehman,	German,	Miner,	43	M.	Baltimore tunnel,	Luzerne,	Leg broken by blast. Went back thinking blast had missed.
13	Benjamin Schutz,	Lithuanian,	Laborer,	40	M.	No. 14 shaft,	Luzerne,	Leg broken by rock he was barring down.
13	Anthony Sklenick,	Lithuanian,	Miner,	29	S.	No. 14 shaft,	Luzerne,	This miner and laborer were burned on face and hands by an explosion of gas they ignited.
14	Phillip Kearilla,	Polish,	Laborer,	21	S.	No. 11 shaft,	Luzerne,	Face and hands burned by gas.
20	Patrick Loftus,	American,	Slate picker,	14	S.	No. 8 breaker,	Luzerne,	Leg cut off. Run over by railroad cars while on foot at waist.
29	John Hefferan,	American,	Motor brakeman,	22	S.	No. 5 shaft,	Luzerne,	Head cut off at waist. While riding on front of motor it ran into fall of rock on gangway.
Aug. 12	Mike Battisumous,	Lithuanian,	Miner,	30	M.	No. 14 shaft,	Luzerne,	Back painfully bruised by fall of rock.
16	John Burk,	Irish,	Miner,	40	M.	No. 9 shaft,	Luzerne,	Hips and leg bruised by fall of top coal.
19	George Clause,	German,	Laborer,	26	S.	Laurel Run slope,	Luzerne,	Leg broken and head cut by fall of rock.
22	Lewis Baker,	German,	Bratticeman,	49	M.	No. 4 shaft,	Luzerne,	Ribs broken and back bruised; struck by prop while unloading it from car.
Sept. 29	Alexander Allan,	Scotch,	Mine foreman,	45	M.	No. 14 shaft,	Luzerne,	These two men were severely burned on face and hands by an explosion of gas while taking up the measurement in Checker vein by going into a breast where there was gas. The colliery was idle.
29	Frank Flaherty,	American,	Bony boss,	40	S.	No. 14 shaft,	Luzerne,	Leg broken by fall of rock while in the act of standing prop.
1	Angelo Willis,	Italian,	Laborer,	24	M.	Fernwood slope,	Luzerne,	Ribs broken. Squeezed between cars on triple. Outside.
12	Joseph Bonie,	Italian,	Laborer,	33	M.	Clarence,	Luzerne,	Severely burned by an explosion of gas.
22	Salvadore Bufalino,	Italian,	Miner,	34	M.	No. 14 shaft,	Luzerne,	His brother Angelo and Luckon Diska were burned at same time and died from their burns.
Oct. 3	Dennis Dowling,	Irish,	Miner,	61	M.	Laurel Run slope,	Luzerne,	Leg broken and hips bruised by fall of rider coal.
8	Frank Matti,	Polish,	Miner,	38	M.	Midvale slope,	Luzerne,	Pelvis fractured and arm broken.
10	Patrick McLaughlan,	American,	Door boy,	16	S.	No. 9 shaft,	Luzerne,	Squeezed between car and rib.
17	Mike Kowalsick,	Austrian,	Laborer,	35	S.	Hoyte shaft,	Luzerne,	Leg broken. Caught between car and rib. Hip dislocated by fall of rock.



TABLE 5.—Continued

Date of accident	Name of Person		Nationality	Occupation		Are Married or single	Name of Mine	County	Nature and Cause of Accident in Brief
Nov.	7	Ramando Rizzie, .....	Italian, ....	Miner, .....	39	M.	No. 7 shaft, .....	Luzerne, ..	Leg broken and body bruised by fall of rock.
	14	Abraham Paulhamous, .....	American, ..	Slope runner, ....	38	S.	Lafin, .....	Luzerne, ..	Hip dislocated by trip of cars on slope.
	14	Andrew Boyco, .....	Slavonian, ..	Driver, .....	34	S.	Henry shaft, .....	Luzerne, ..	Painfully squeezed between car and rib.
	14	Martin Shortlorky, .....	Polish, .....	Miner, .....	38	M.	Wyoming shaft, .....	Luzerne, ..	Face and hands burned by gas.
	22	Joe Machansky, .....	Russian, ...	Miner, .....	29	S.	Henry shaft, .....	Luzerne, ..	Face and hands burned by powder he was handling.
	23	Patrick Gill, .....	Irish, .....	Miner, .....	48	M.	Mineral Spring slope, ..	Luzerne, ..	Painfully bruised by coal from a blast.
Dec.	3	Charles Wasloski, ....	Polish, .....	Laborer, .....	29	S.	Henry Red Ash shaft, ..	Luzerne, ..	Face and hand burned by powder he was handling.
	5	Frank Silathoski, ....	Lithuanian, ..	Miner, .....	35	S.	No. 14 shaft, .....	Luzerne, ..	{ This miner and his laborer were burned on face and hands by gas they ignited at face of their breast after being told by the fire boss to go home.
	5	Macum Krezosensum, ..	Lithuanian, ..	Laborer, .....	21	S.	No. 14 shaft, .....	Luzerne, ..	{
	5	Michael Shontle, .....	Polish, .....	Laborer, .....	20	S.	Consolidated slope, ....	Luzerne, ..	Leg broken by car.
	6	James Williamson, ...	American, ...	Laborer, .....	37	S.	Laurel Run slope, ....	Luzerne, ..	Leg broken by fall of rock while working in rock tunnel.
	7	James Hopkins, .....	American, ...	Mason, .....	23	S.	No. 8 shaft, .....	Luzerne, ..	Leg broken by flying coal from a blast.
	13	Wm. Howey, .....	American, ...	Miner, .....	56	M.	No. 14 shaft, .....	Luzerne, ..	Arm broken and head cut by fall of rock.
	14	Louis Oleshofsky, ....	Polish, .....	Driver, .....	17	S.	Midvale slope, .....	Luzerne, ..	Hips bruised between car and prop.
	15	Martin Hayer, .....	American, ...	Timberman, .....	27	S.	Midvale slope, .....	Luzerne, ..	Nose and cheek bone broken by slope rope.
	20	Patrick Pucrone, .....	Italian, ....	Slate picker, .....	31	M.	No. 6, .....	Luzerne, ..	Leg broken by falling railroad car.
	20	Luke Hopkins, .....	American, ...	Miner, .....	24	S.	No. 9 shaft, .....	Luzerne, ..	{ While unloading from Outside car, arm broken. Cut on head by fall of top coal.

## CONDITION OF COLLIERIES

The condition of the mines in this district in regard to ventilation and drainage has been greatly improved since the last report. The ventilation is now conducted in a more satisfactory manner around the face of the workings. There are a few mines, however, whose foremen require constant hammering at to keep them in line in this respect. The foremen's time and attention are more taken up with hustling coal out to the foot of the shaft or slope, than with the proper distribution of the air current to the men. They leave this most important part of their work in charge of the fire boss or assistant.

The drainage and roads have received better attention, and are in fairly good condition, so that little complaint can be made. As for the safety of all the mines in this district from any sudden catastrophe from water, gas or general caving of the overlying strata, they are in good condition.

## IMPROVEMENTS

### HILLSIDE COAL AND IRON COMPANY

A new breaker was built at the Butler colliery of this company, having a capacity of 1,500 tons per day.

The machinery installed therein is of the latest for preparing the coal for market. An addition was built to the boiler house 35x55 feet and 600 additional horse power added.

Babcock and Wilcox had water tube boilers installed, a brick fire-proof power house was built 35x50 feet, and two 215 K. W. general electric generators, 275 to 300 volts driven by two 285 McEwen engines installed for the purpose of supplying power to five 7½ ton locomotives, electric drills, lights, etc.

A new slope was opened on the out-crop of the Checker vein at the Butler colliery 7x14 feet in area, and has been sunk 1,000 feet. A new engine house was built and a pair of hoisting engines installed in it for hoisting the coal to the surface. A new fan house was built and a 12 foot diameter fan erected to ventilate the workings.

The old No. 2 shaft of the Florence Coal Company, which was abandoned for some time, and now called the Thomas shaft Butler colliery, has been concreted from the surface to the rock, a distance of 23½ feet, and the shaft placed in first class condition for hoisting coal. A new gangway was driven in the Red Ash vein from the foot of the shaft to the Chapman shaft workings, the coal of which will be hoisted up the Thomas shaft and sent to Butler breaker, doing away with the Chapman except as a ventilating shaft. The fan will be run by electric motor doing away with the Chapman steam plant.

A steam plant has been projected in the Thomas shaft Red Ash vein from the shaft level up the east rise and driven a considerable distance which will work all the coal to the crop a distance approximately 3,500 feet. A pair of 16x20 inch engines is placed in position to handle all the coal.

A new slope called Butler Marcy slope, has been sunk from the surface in Marcy vein and through the old abandoned workings of the Butler shaft until at the present writing it has reached a distance of 3,500 feet. A pair of first motion 26x36 inch Vulcan engines installed for hoisting the coal, a new engine and fan house were erected and a 20-foot diameter fan built to ventilate the workings.

At the Consolidated colliery, of the above company, the No. 1 slope has been extended 140 feet to the bottom split of Red Ash vein.

#### DELAWARE AND HUDSON COMPANY

At the Delaware shaft, a new air return has been driven in the Cooper vein, a distance of 3,000 feet, to ventilate the territory covered by the mine fire of 1900, and also to ventilate numbers 19 and 20 tunnel workings.

At the Baltimore slope, No. 5 plane in Baltimore seam has been graded and a pair of engines installed on the surface which operate the plane by rope through a bore hole.

#### HUDSON COAL COMPANY

At the Laffin colliery a bore hole was drilled near the breaker and crusher plant installed for crushing the refuse from the breaker which is being flushed into the mine.

An engine plane in the Red Ash vein was driven 1,250 feet, a bore hole was drilled from surface to head of plane and a pair of 14x2 inch engines was installed on the surface to operate the same.

At the Laurel Run colliery, a rock tunnel from the Checker to Red Ash vein was driven a distance of 1,050 feet.

A new haulage road has been driven 450 feet toward Pine Ridge workings, to transport the coal up the Pine Ridge shaft to be prepared in the breaker. This road when finished will do away with the Laurel Run breaker.

#### Mine Foremen's Examinations

The examination of applicants for certificates of qualification as mine foremen and assistant mine foremen, was held on the 15th and 16th of June, at Pittston.

The board of examiners was Hugh McDonald, mine inspector, J. L. Cake, superintendent, and John J. Morahan and David P. Williams, miners. The following applicants were recommended for certificates:

#### Mine Foremen

Gwilym Evans, John Noonan, William Dobbie, Patrick Walsh, William S. Coleman, Leo Walsh, Thomas Grier, William Mathews, Gwilym Williams, William Bresnehan, Frederick Tischler, John T. Williams, William G. Johnson, Patrick J. Gallagher, James Weston and William Lancaster, Pittston; John J. Dempsey and Thomas Muir, Moosic; Michael J. Ford and John A. Robertson, Inkerman; George H. Laverick and Andrew McGowan, Avoca; Thomas Edwards, Parsons; Thomas F. Kirbey, Plainsville.

#### Assistant Mine Foremen

James S. Deeble, Avoca; Cornelius G. Bumbee, Wyoming; John E. Davis, Moses Hughes and Enoch Dykins, Pittston; Joseph Llewellyn, Dupont; Edward J. Brennan, Plains.



## Sixth District

LUZERNE AND SULLIVAN COUNTIES

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Kingston, Pa., March 1, 1905.

Hon. James E. Roderick, Chief of Department of Mines:

Sir: I have the honor of herewith transmitting to you my annual report as Inspector of Mines for the Sixth Anthracite District for the year ending December 31, 1904.

The quantity of coal produced during the year was 4,344,246 tons.

The number of fatal accidents was 47 inside and 6 outside.

The report also gives the statistical information as required by law and a tabulated description of the fatal and non-fatal accidents that occurred during the year, with other useful information.

Respectfully submitted,

P. M. BOYLE,  
Inspector.



## SUMMARY OF STATISTICS

Number of collieries, .....	23
Number of mines, .....	41
Number of mines in operation, .....	41
Number of tons of coal shipped to market, .....	3,887,173
Number of tons used at mines for steam and heat, .....	386,735
Number of tons sold to local trade and used by employes, ..	70,338
Number of tons of coal produced, .....	4,344,246
Number of persons employed inside of mines, .....	8,121
Number of persons employed outside, .....	3,211
Number of fatal accidents inside of mines, .....	47
Number of fatal accidents outside, .....	6
Number of non-fatal accidents inside of mines, .....	67
Number of non-fatal accidents outside, .....	11
Number of tons of coal produced per fatal accident in- side, .....	92,431
Number of persons employed per fatal accident inside,...	173
Number of persons employed per fatal accident outside,...	535
Number of persons employed per non-fatal accident in- side, .....	121
Number of persons employed per non-fatal accident out- side, .....	292
Number of wives made widows by fatal accidents, .....	28
Number of children orphaned by fatal accidents, .....	62
Number of steam locomotives used inside of mines, .....	1
Number of steam locomotives used outside, .....	14
Number of compressed air locomotives used inside, .....	3
Number of electric motors used inside, .....	14
Number of fans used for ventilation, .....	38
Number of gaseous mines in operation, .....	24
Number of non-gaseous mines in operation, .....	17
Number of new mines opened, .....	2
Number of old mines abandoned, .....	1

TABLE A

## PRODUCTION OF COAL

Names of Operators	Tons
Lehigh Valley Coal Company, .....	1,012,342
Temple Iron Company, .....	783,216
Kingston Coal Company, .....	537,483
Pennsylvania Coal Company, .....	470,438
Delaware, Lackawanna and Western Railroad Company, ..	250,041
Clear Spring Coal Company, .....	212,724
Raub Coal Company, .....	163,148
Connell Anthracite Mining Company, .....	153,863
Delaware and Hudson Company, .....	132,744
People's Bank Receiver (Plymouth Coal Co.), .....	146,727
Stevens Coal Company, .....	113,884
W. G. Payne and Company, .....	90,872
Northern Anthracite Coal Company, .....	83,218
Wyoming Coal and Land Company, .....	76,449
Robertson and Law Coal Company, .....	72,052
W. B. Gunton Coal Company, .....	25,691
Reliance Coal Company, .....	4,824
Troy Coal Company, .....	2,803
Meyers Coal Company, .....	11,727
Total, .....	4,344,246

## Production by Counties

Luzerne, .....	4,081,474
Sullivan, .....	262,772
Total, .....	4,344,246



TABLE C.—Classification of fatal accidents inside and outside of mines

	Inside										Outside						Grand total
	By Falls of		By mine cars	By explosion of gas	Smothered by gas	By powder and dynamite	By blasts, etc.	By Falling Into			Crushed at batteries	By mules	Suffocated by coal, etc.	Miscellaneous causes	Total inside		
	Coal	State						Roof	Shafts	Slopes						Manways, breasts, etc.	
January	.....	.....	1	1	.....	.....	1	1	.....	.....	.....	.....	.....	.....	.....	.....	.....
February	.....	.....	.....	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
March	1	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
April	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
May	.....	.....	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
June	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
July	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
August	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
September	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
October	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
November	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
December	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Totals	13	1	14	5	1	.....	2	3	4	.....	.....	.....	3	.....	.....	47	53

TABLE D.—Classification of non-fatal accidents inside and outside of mines

	Inside										Outside						Grand total			
	By Falls of			By mine cars	By explosion of gas	Smothered by gas	By powder and dynamite	By blasts, etc.	Shafts	By Falling Into			Total inside	By cars	By machinery	By suffocation		By boiler explosions	Miscellaneous causes	Total outside
	Coal	Slate	Roof							Slopes	Manways, breasts, etc.	Crushed at batteries								
January, .....	1	1	2	3	12	2	8	...	...	...	...	67	4	3	...	...	...	4	11	78
February, .....	1	1	1	3	...	...	...	1	1	...	...	...	1	1	1	...	...	...	1	8
March, .....	1	1	1	3	...	...	...	1	1	...	...	...	1	1	1	...	...	...	1	9
April, .....	1	1	1	3	1	1	1	1	1	...	...	...	1	1	1	...	...	...	1	9
May, .....	1	1	1	3	1	1	1	1	1	...	...	...	1	1	1	...	...	...	1	9
June, .....	1	1	1	3	1	1	1	1	1	...	...	...	1	1	1	...	...	...	1	9
July, .....	1	1	1	3	2	1	1	1	1	...	...	...	1	1	1	...	...	...	1	9
August, .....	1	1	1	3	6	1	1	1	1	...	...	...	1	1	1	...	...	...	1	9
September, .....	1	1	1	3	2	1	1	1	1	...	...	...	1	1	1	...	...	...	1	9
October, .....	1	1	1	3	2	1	1	1	1	...	...	...	1	1	1	...	...	...	1	9
November, .....	1	1	1	3	1	1	1	1	1	...	...	...	1	1	1	...	...	...	1	9
December, .....	1	1	1	3	1	1	1	1	1	...	...	...	1	1	1	...	...	...	1	9
Totals, .....	7	2	9	20	12	2	8	...	...	...	...	67	4	3	...	...	...	4	11	78

TABLE E.—Occupations of persons killed or fatally injured inside and outside of mines

	Inside										Outside										Grand total
	Mine foremen	Assistant mine foremen	Fire bosses and assistants	Miners	Miners' laborers	Drivers and runners	Door-boys and helpers	Pumpmen	Company men	All other employees	Total inside	Superintendents	Foremen	Blacksmiths and carpenters	Engineers and firemen	State pickers (boys)	State pickers (men)	Book-keepers and clerks	All other employees	Total outside	
January, .....	.....	.....	.....	24	18	2	3	.....	.....	.....	4	.....	.....	.....	.....	.....	.....	.....	.....	.....	6
February, .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
March, .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
April, .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
May, .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
June, .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
July, .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
August, .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
September, .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
October, .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
November, .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
December, .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Totals, .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....



TABLE F.—Occupations of persons injured inside and outside of mines

	Inside										Outside										Grand total
	Mine foremen	Assistant mine foremen	Fire bosses and assistants	Miners	Miners' laborers	Drivers and runners	Door-boys and helpers	Pumpmen	Company men	All other employees	Total inside	Superintendents	Foremen	Blacksmiths and carpenters	Engineers and firemen	State pickers (boys)	State pickers (men)	Book-keepers and clerks	All other employees	Total outside	
January	1				1	1	1		1	1	6								2	2	8
February					1		1				1								1	1	3
March					1						1			1						1	3
April					2	1	1		1		5										6
May					1	1					2										3
June				4		1			1	1	7				1		1				11
July					2	1	1		1	1	6										11
August				5	2	4	1		2	1	19									2	21
September	1			5	2	4	1		2	1	16										18
October				5	1	2			1		8								2	2	10
November				5	1	2			1		11								2	1	14
December				1	2				1		4								1	1	6
Totals	2			31	11	11	3		7	2	67			1	1	1	1		8	11	78

TABLE G.—Nationality of Persons Killed or Fatally Injured Inside and Outside of Mines.

	American	English	Welsh	Scotch	German	Polish	Hungarian	Italian	Slavonian	Lithuanian	Austrian	Russian	Canadian	Totals
January, .....	1		1			1				1				4
February, .....						1	1			2				4
March, .....						2		1					1	4
April, .....	1					1						1		4
May, .....	1					2	1		1					5
June, .....	1	1												2
July, .....						4	1		1		2			8
August, .....						1		1		1		1		4
September, .....	1					1				1				2
October, .....						1								1
November, .....		1	1			2			1					5
December, .....	2	1		1	1	2		2						9
Totals, ....	7	3	2	1	1	20	3	4	3	4	2	2	1	53

TABLE H.—Nationality of Persons Injured Inside and Outside of Mines

	American	English	Welsh	Scotch	Irish	Polish	Hungarian	Italian	Slavonian	Lithuanian	Austrian	Russian	Totals
January, .....	1		1	1	2	2			1				8
February, .....	1	1				2		1					5
March, .....	2					2	1						5
April, .....						2	1						3
May, .....	3					2			1		1		5
June, .....	1	1			1	1			1				5
July, .....	2												2
August, .....						3							3
September, .....	4		1		1	5			2			1	14
October, .....	3					1	1						5
November, .....	3					1		1		2	1		8
December, .....	1					3			1				5
Totals, .....	27	2	2	1	4	26	3	3	7	1	1	1	78

TABLE I.—Operators and mines, kind of openings, type and size of fans, size of furnaces, volume of air produced by fan or furnace per minute, number of splits of air currents, number of persons employed inside, and quantity of air produced for each person per minute

Names of Operators and Mines	Kind of opening	Gaseous or non-gaseous	Method of ventilation	Diameter of fan in feet	Width of blades in feet	Depth of blades in feet	Number of revolutions per minute	Water gauge developed—in inches.	Name of fan	Power used	Number of splits of air currents	Number of cubic feet of air per minute entering the mine at inlet.	Total quantity of air per minute circulating in all the splits in cubic feet	Number of cubic feet per minute passing out at outlet	Number of persons employed inside	Average number of cubic feet per person provided for	
Lehigh Valley Coal Co. Maitby colliery—Maitby shaft, ..... Mountain tunnel, Four Foot slope, .. Non-gas. Exeter colliery—Red Ash shaft, ... Shaft, .. Pittston and Marcy shafts.	Shaft, ..	Gaseous.	2 fans, {	25	8.11	6.10	75	2½	Gubal.	Steam, ..	10	167,000	152,000	172,000	298	510	
	Tunnel, ..	Non-gas.	Fan, ....	6	5.11	5.8	85	1½	Gubal.	Steam, ..	3	39,000	27,000	45,000	60	450	
	Slope, ..	Non-gas.	Fan, ....	12	4	16	130	1½	Gubal.	Steam, ..	3	56,000	46,000	61,000	55	336	
	Four Foot slope, ....	Gaseous.	Fan, ....	20	6.8	3.10	85	1½	Gubal.	Steam, ..	2	105,556	89,173	111,573	360	248	
	Exeter colliery—Red Ash shaft, ....	Gaseous.	Fan, ....	20	3.11	3.11	60	.9	Gubal.	Steam, ..	2	72,100	37,300	84,750	99	579	
Seneca colliery—Twin shaft, ..... Coxey shaft, ..... Columbia shaft, ... Temple Iron Co.	Shaft, ..	Gaseous.	2 fans, {	20	6.11	6.7	60	.9	Gubal.	Steam, ..	5	95,030	72,500	108,000	144	503	
	Shaft, ..	Gaseous.	Fan, ....	20	5.6	5.6	60	1	Gubal.	Steam, ..	3	52,000	55,500	58,900	58	957	
	Shaft, ..	Gaseous.	Fan, ....	20	5	5	60	1	Gubal.	Steam, ..	4	70,702	76,125	81,650	128	595	
	Shaft, ..	Gaseous.	Fan, ....	20	5	5.6	60	1	Gubal.	Steam, ..	5	66,210	60,205	72,320	117	592	
	Shaft, ..	Gaseous.	2 fans, {	20	6.5	5	80	1.9	Gubal.	Steam, ..	7	132,700	134,300	134,300	370	363	
Harry E., ..... Forty-Fort, ..... Mt Lookout, ..... Temple Iron Co.	Shaft, ..	Gaseous.	2 fans, {	20	6.5	5	80	1.9	Gubal.	Steam, ..	7	132,700	134,300	134,300	370	363	
	Shaft, ..	Gaseous.	Fan, ....	17	4.5	3	80	1.8	Gubal.	Steam, ..	3	52,000	55,500	58,900	58	957	
	Shaft, ..	Gaseous.	2 fans, {	20	6.5	5	80	1.9	Gubal.	Steam, ..	6	133,540	138,200	138,200	112	335	
	Shaft, ..	Gaseous.	2 fans, {	17	5	4.5	80	2.5	Gubal.	Steam, ..	7	132,700	134,300	134,300	370	363	
	Shaft, ..	Gaseous.	2 fans, {	17	5	4.5	80	2.5	Gubal.	Steam, ..	7	132,700	134,300	134,300	370	363	
Kingston Coal Co. Shaft No. 1, ..... Shaft No. 5, ..... Shaft No. 4, ..... Pennsylvania Coal Co. Barnum colliery—Barnum shaft, ..... Barnum colliery—Barnum No. 2 shaft, ..... Barnum No. 3 shaft, ..... Barnum shaft.	Shaft, ..	Gaseous.	Fan, ....	12.4	3.7	3.7	143	1.3	Gubal.	Steam, ..	7	146,390	123,718	157,955	240	515	
	Shaft, ..	Gaseous.	Fan, ....	26	5	5	86	2.1	Gubal.	Steam, ..	7	146,390	123,718	157,955	240	515	
	Shaft, ..	Gaseous.	2 fans, {	25	8	8	79	2.3	Gubal.	Steam, ..	7	77,444	67,772	94,767	202	259	
	Shaft, ..	Gaseous.	Fan, ....	20	6.6	5	70	1	Gubal.	Steam, ..	4	81,900	73,900	84,000	191	387	
	Shaft, ..	Gaseous.	Fan, ....	15	4.9	3.9	70	1	Gubal.	Steam, ..	4	86,585	73,600	89,800	239	308	

Central colliery—No. 13 shaft, Law shaft, .....	Shaft, ..	Gaseous.	Fan, .....	20	6.6	5	70	1	Guibal,	Steam, ..	78,800	70,000	52,100	105	657
Delaware, Lackawanna and West- ern Railroad Co.	Shaft, ..	Gaseous.	Fan, .....	20	6.6	5	70	1.5	Guibal,	Steam, ..	93,700	94,500	112,000	216	438
Pettebone, .....	Shaft, ..	Gaseous.	2 fans, { 22 6.2 6 35 10.1 9.1	22 35	6.2 10.1	6 9.1	120 52	1.7 1.7	Dickson,	Steam, ..	264,491	209,720	273,615	341	615
Clear Spring Coal Co.	Shaft, ..	Gaseous.	2 fans, { 24 8 6 20 6 6	24 20	8 6	6 6	70 60	1.6 .8	Guibal,	Steam, ..	260,000	180,000	210,000	571	315
Raub Coal Co.	Tunnel, ..	Non-gas.	Fan, .....	12	3.10	3.10	110	.8	Guibal,	Steam, ..	31,500	31,500	32,500	54	583
Louise colliery—Mount Thomas, Kiondike, .....	Tunnel, ..	Non-gas.	Natural, .....	.....	.....	.....	.....	.....	.....	.....	32,000	32,000	33,900	100	320
Bennett, .....	Shaft, ..	Non-gas.	Natural, .....	.....	.....	.....	.....	.....	.....	.....	21,000	21,000	21,800	12	1,750
Waddell's, .....	Shaft, ..	Non-gas.	Natural, .....	.....	.....	.....	.....	.....	.....	.....	55,000	55,000	58,300	116	474
Connell Anthracite Mining Co.	Shaft, ..	Non-gas.	Fan, .....	6	8	15	575	2	Electric,	Electric,	35,700	34,400	37,900	47	732
Bernice colliery—Beech shaft, .....	Drift, .....	Non-gas.	Fan, .....	16	4	4	30	.2	Guibal,	Steam, ..	70,960	68,100	88,400	177	385
Delaware and Hudson Co.	Shaft, ..	Non-gas.	Fan, .....	17	5	6	60	2	Guibal,	Steam, ..	101,400	47,800	64,600	178	267
Langcliff colliery—Langcliff, .....	Drift, .....	Non-gas.	Natural, .....	.....	.....	.....	.....	.....	.....	.....	27,400	28,800	28,600	70	411
Drift No. 1, .....	Drift, .....	Non-gas.	Natural, .....	.....	.....	.....	.....	.....	.....	.....	25,400	23,000	24,800	18	1,278
Drift No. 2, .....	Drift, .....	Non-gas.	Natural, .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
People's Bank, Receiver.	Shaft, ..	Gaseous.	Fan, .....	20	6.6	6	90	1.7	Guibal,	Steam, ..	79,500	35,200	89,900	153	230
Black Diamond, .....	Shaft, ..	Gaseous.	Fan, .....	20	5	6	62	1.1	Guibal,	Steam, ..	70,321	47,890	79,215	140	342
Stevens Coal Co.	Shaft, ..	Gaseous.	Fan, .....	20	5	6	62	1.1	Guibal,	Steam, ..	70,321	47,890	79,215	140	342
Stevens colliery—Shaft, slope and tunnel.	Slope, tunnel.	Gaseous.	Fan, .....	20	5	6	62	1.1	Guibal,	Steam, ..	70,321	47,890	79,215	140	342
New shaft, .....	Shaft, ..	Gaseous.	Fan, .....	20	6	7	60	.....	Guibal,	Steam, ..	.....	.....	.....	.....	.....
W. G. Payne and Co.	Shaft, ..	Gaseous.	Fan, .....	25	8	7%	78	2.8	Guibal,	Steam, ..	135,050	82,400	137,100	143	577
East Boston, .....	Shaft, ..	Gaseous.	Fan, .....	25	8	7%	78	2.8	Guibal,	Steam, ..	135,050	82,400	137,100	143	577
Northern Anthracite Coal Co.	Shaft, ..	Non-gas.	Fan, .....	16	5	6	55	1.2	Wardell,	Steam, ..	39,900	38,000	39,000	108	352
Murray, .....	Shaft, ..	Non-gas.	Fan, .....	16	5	6	55	1.2	Wardell,	Steam, ..	39,900	38,000	39,000	108	352
Wyoming Coal and Land Co.	Tunnel, ..	Non-gas.	Fan, .....	12	4	3.11	110	1.5	Guibal,	Steam, ..	70,125	40,250	79,765	78	516
Griffith, .....	Tunnel, ..	Non-gas.	Fan, .....	12	4	3.11	110	1.5	Guibal,	Steam, ..	70,125	40,250	79,765	78	516
Robertson and Law Coal Co.	Slope, ...	Non-gas.	Fan, .....	12	3.6	3	75	.4	Guibal,	Steam, ..	34,000	34,000	36,000	113	301
Katydid, .....	Slope, ...	Non-gas.	Fan, .....	12	3.6	3	75	.4	Guibal,	Steam, ..	34,000	34,000	36,000	113	301
W. B. Gunton Coal Co.	Drift, .....	Non-gas.	Natural, .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Lykens drift, .....	Drift, .....	Non-gas.	Natural, .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

\*Fan not running yet.





TABLE 1.—Operators, location of collieries, railroads, etc.

Names of Operators and Collieries	County	Name of General Superintendent	Post Office	Name of Superintendent	Post Office	Railroad to Mine
Lehigh Valley Coal Co. Maltby. Exeter. Seneca.	Luzerne, Luzerne, Luzerne,	S. D. Warriner, S. D. Warriner, S. D. Warriner,	Wilkes-Barre, Wilkes-Barre, Wilkes-Barre,	F. E. Zerbey, F. E. Zerbey, Thomas Thomas,	Wilkes-Barre, Wilkes-Barre, Pittston,	Lehigh Valley Lehigh Valley Lehigh Valley
Temple Iron Co. Harry E. Forty Fort. Mt. Lookout.	Luzerne, Luzerne, Luzerne,	F. H. Hemelright, F. H. Hemelright, F. H. Hemelright,	Scranton, Scranton, Scranton,	George Steel, George Steel, George Steel,	West Pittston, West Pittston, West Pittston,	Lehigh Valley Lehigh Valley Lehigh Valley
Kingston Coal Co. Kingston.	Luzerne,	R. S. Mercier,	Kingston,	Gwilym Edwards,	Edwardsdale,	D., L. and W.
Pennsylvania Coal Co. Barnum. Central.	Luzerne, Luzerne,	W. W. Ingalls, W. W. Ingalls,	Scranton, Scranton,	W. P. Jennings, W. P. Jennings,	West Pittston, West Pittston,	Erie and Wyoming Valley Erie and Wyoming Valley
Delaware, Lackawanna and Western Railroad Co. Pettebone. Pettebone washery.	Luzerne, Luzerne,	R. A. Phillips, R. A. Phillips,	Scranton, Scranton,	H. G. Davis, Fred Smith,	Kingston, Scranton,	D., L. and W. D., L. and W.
Clear Spring Coal Co. Clear Spring. Clear Spring washery.	Luzerne, Luzerne,	J. L. Cake, J. L. Cake,	Pittston, Pittston,	J. Paul Cake, J. Paul Cake,	Pittston, Pittston,	D., L. and W. D., L. and W.
Raub Coal Co. Louise.	Luzerne,	S. J. Tonkins,	Luzerne,	S. J. Tonkins,	Wilkes-Barre,	Lehigh Valley
Connell Anthracite Mining Co. Bernice.	Sullivan,	W. L. Connell,	Scranton,			Lehigh Valley
Delaware and Hudson Co. Langcliffe.	Luzerne,	C. C. Rose,	Scranton,	E. R. Pettebone,	Scranton,	Delaware and Hudson
People's Bank, Receiver. Black Diamond. Black Diamond washery.	Luzerne, Luzerne,	J. B. Davis, J. B. Davis,	Plymouth, Plymouth,	James B. Davis,	Plymouth,	D., L. and W. Lehigh Valley
Stevens Coal Co. Stevens.	Luzerne,	H. W. Kingsbury,	Scranton,	D. W. Evans,	Pittston,	Lehigh Valley



TABLE 1.—Continued

Names of Operators and Col- leries	County	Name of General Superintendent	Post Office	Name of Superin- tendent	Post Office	Railroad to Mine
W. G. Payne and Co. East Boston, .....	Luzerne, .....	W. T. Payne, ....	Kingston, .....	Wm. O. Williams, ..	Dorrancton, .....	D., L. and W.
Northern Anthracite Coal Co. Murray, .....	Sullivan, ....	M. J. Murray, ....	Dunmore, .....	P. H. Mongan, ....	Lopez, .....	Lehigh Valley
Wyoming Coal and Land Co. Griffith, .....	Luzerne, .....	W. L. Connell, ....	Scranton, .....	S. B. Williams, ....	Wyoming, .....	Lehigh Valley
Robertson and Law Coal Co. Katydid, .....	Luzerne, .....	J. M. Robertson, ..	Mooste, .....	.....	.....	Erle and Wyoming Valley
W. B. Gunton Coal Co. Lykens, .....	Sullivan, ....	W. B. Gunton, ....	Berlize, .....	.....	.....	Lehigh Valley
Reliance Coal Co. Reliance, .....	Luzerne, .....	Solomon Deeble, ...	Avoca, .....	.....	.....	Lehigh Valley
Troy Coal Co. Troy, .....	Luzerne, .....	.....	.....	James Waters, ....	Wyoming, .....	Lehigh Valley
Meyers Coal Co. Meyers washery, .....	Luzerne, ....	Herman Meyers, ...	Wilkes-Barre, .....	.....	.....	D., L. and W.

TABLE 2.—Number of tons of coal mined, number of persons employed, number killed and injured, quantity of powder and dynamite used, etc.

Names of Operators and Collieries		County												
				Number of tons of coal shipped to market	Number of tons used at collieries for steam and heat	Number of tons sold to local trade and used by employees	Total production of coal in tons	Number of days worked (totals are averages, not including washeries)	Number of employees	Number of fatal accidents	Number of non-fatal accidents	Number of kegs of powder used	Number of pounds of dynamite used	Number of horses and mules
Lehigh Valley Coal Co.														
Malby, .....		Luzerne, .....		264,463	31,423	3,980	299,866	220	752	7	1	12,714	39,073	110
Exeter, .....		Luzerne, .....		439,102	20,881	7,990	527,973	234	840	8	10	9,743	159,400	132
Seneca, .....		Luzerne, .....		189,958	22,404	2,141	184,563	197	695	3	12	11,612	9,200	66
Totals, .....				923,523	74,708	14,111	1,012,312	217	2,197	18	23	34,069	207,673	308
Temple Iron Co.														
Forty Fort, .....		Luzerne, .....		175,927	22,080	.....	198,007	204	573	1	8	8,097	21,115	60
Harry E., .....		Luzerne, .....		285,396	38,962	4,740	329,098	224	801	5	6	11,118	7,425	91
Mt. Lookout, .....		Luzerne, .....		292,116	46,630	7,455	256,201	204	713	5	4	14,721	75,000	63
Totals, .....				663,319	107,672	12,185	783,216	211	2,087	11	18	33,936	103,540	214
Kingston Coal Co.														
Kingston, .....		Luzerne, .....		492,883	44,133	467	537,453	215	1,070	2	7	19,321	3,000	120
Pennsylvania Coal Co.														
Central, .....		Luzerne, .....		235,202	5,325	3,373	243,900	175	586	3	1	8,100	1,795	69
Barnum, .....		Luzerne, .....		224,253	2,133	152	226,538	116	701	3	1	9,155	1,227	68
Totals, .....				459,455	7,458	3,525	470,438	146	1,287	6	2	17,255	3,022	127
Delaware, Lackawanna and Western Railroad Co.														
Pettebone, .....		Luzerne, .....		185,372	45,582	5,592	236,546	178	611	1	5	5,705	23,405	67
Pettebone washery, .....		Luzerne, .....		12,550	945	.....	13,495	63	26	.....	.....	.....	.....	.....
Totals, .....				197,922	46,527	5,592	250,041	178	637	1	5	5,705	23,405	67

TABLE 2.—Continued

Names of Operators and Collieries	County	Number of tons of coal shipped to market	Number of tons used at collieries for steam and heat	Number of tons sold to local trade and used by employees	Total production of coal in tons	Number of days worked (totals are averages, not including washeries)	Number of employees	Number of fatal accidents	Number of non-fatal accidents	Number of kegs of powder used	Number of pounds of dynamite used	Number of horses and mules
Clear Spring Coal Co.	Luzerne, .....	190,343	10,000	1,860	202,203	230	821	1	5	9,643	26,925	88
Clear Spring washery, .....	Luzerne, .....	9,849	.....	702	10,551	47	25	.....	.....	.....	.....	.....
Totals, .....	.....	200,162	10,000	2,562	212,724	230	846	1	5	9,643	26,925	88
Louise, .....	Luzerne, .....	139,127	14,600	9,421	163,148	193	444	3	2	5,174	19,825	49
Raub Coal Co.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Connell Anthracite Mining Co.	Sullivan, .....	133,369	18,250	2,244	153,863	226	416	.....	2	6,231	60,149	35
Langcliff, .....	Luzerne, .....	118,916	12,423	1,405	132,744	192	475	4	1	7,321	5,409	79
People's Bank, Receiver.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Black Diamond, .....	Luzerne, .....	112,604	9,000	4,123	125,727	187	365	3	7	2,496	8,950	38
Black Diamond washery, .....	Luzerne, .....	21,000	21,000	.....	21,000	67	10	.....	.....	.....	.....	.....
Totals, .....	.....	112,674	30,000	4,123	146,727	167	375	3	7	2,496	8,950	38
Stevens Coal Co.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Stevens, .....	Luzerne, .....	110,921	.....	2,963	113,884	198	343	.....	1	5,697	36,475	53
W. G. Payne Coal Co.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
East Boston, .....	Luzerne, .....	84,555	1,250	5,067	90,872	131	303	1	1	2,660	1,825	42

Murray, .....	Sullivan, ..	77,259	4,000	1,959	83,218	138	162	.....	1	3,000	650	18
Griffith, .....	Luzerne, ....	64,236	10,200	2,013	76,449	133	249	1	1	4,527	7,700	26
Katydid, .....	Luzerne, ....	67,553	3,500	999	72,052	191	205	1	1	2,253	14,100	26
Lykens, .....	Sullivan, ....	24,023	672	991	25,691	72	87	1	.....	557	.....	6
Reliance, .....	Reliance Coal Co.	3,481	642	701	4,824	59	70	.....	1	199	75	6
Troy, .....	Troy Coal Co.	2,893	.....	.....	2,893	60	72	.....	.....	300	200	6
Meyers washery, .....	Meyers Coal Co.	11,027	700	.....	11,727	51	27	.....	.....	.....	.....	.....
Grand totals, .....	.....	3,887,173	386,735	70,338	4,344,246	168	11,332	53	78	160,347	522,923	1,308

TABLE 2.—Recapitulation

Lehigh Valley Coal Co., .....	Luzerne, .....	923,523	74,708	14,111	1,012,342	217	2,197	18	23	34,069	207,673	308
Temple Iron Co., .....	Luzerne, .....	683,349	107,672	12,195	783,216	211	2,087	11	18	33,936	103,540	214
Pennsylvania Coal Co., .....	Luzerne, .....	459,455	7,458	3,525	470,438	146	1,287	6	2	17,255	3,022	127
Delaware, Lackawanna and Western Railroad Co., .....	Luzerne, .....	197,922	46,527	5,592	250,041	178	637	1	5	5,705	23,405	67
Clear Spring Coal Co., .....	Luzerne, .....	290,162	10,000	2,562	212,724	230	846	1	5	9,643	26,925	88
People's Bank Receiver, .....	Luzerne, .....	112,604	30,000	4,123	146,727	167	375	3	7	2,495	8,950	31
Delaware and Hudson Co., .....	Luzerne, .....	118,916	12,423	1,405	132,744	192	475	4	1	7,321	5,409	79
Miscellaneous companies, .....	Sullivan and Luzerne, ..	1,211,242	97,947	26,825	1,336,014	168	3,448	9	17	49,422	143,959	387
Totals, .....	.....	3,887,173	386,735	70,338	4,344,246	168	11,332	53	78	160,347	522,923	1,308

TABLE 2.—Continued

Names of Operators	County	Number of Boilers			Locomotives			Total horse power	Number of steam engines of all classes	Total horse power	Number of pumps delivering water to surface	Capacity in gallons per minute	Quantity delivered to surface per minute—gallons	Number of electric dynamos	Number of air compressors
		Cylindrical	Horse power	Tubular	Horse power	Total horse power	Steam	Air	Electric						
Lehigh Valley Coal Co.,	Luzerne,	32	5,800	12	1,125	5,800	4	3	4	69	11	12,100	10,400	2	2
Temple Iron Co.,	Luzerne,	20	3,330	7	1,040	3,330	2	.....	.....	68	9	11,100	4,850	2	.....
Kingston Coal Co.,	Luzerne,	8	1,570	6	660	1,570	.....	.....	3	31	9	8,200	4,150	.....	.....
Pennsylvania Coal Co.,	Luzerne,	17	438	.....	1,260	1,630	4	.....	.....	20	9	10,823	4,610	.....	.....
Delaware, Lackawanna and Western Railroad Co.,	Luzerne,	.....	.....	.....	.....	.....	.....	.....	.....	19	2	2,709	1,900	2	.....
Clear Spring Coal Co.,	Luzerne,	.....	.....	.....	.....	.....	.....	.....	.....	16	2	1,200	600	.....	.....
Gaul Coal Co.,	Luzerne,	13	465	.....	.....	.....	1	.....	.....	14	1	500	300	.....	.....
Delaware Anthracite Mining Co.,	Sullivan,	5	1,050	.....	1,050	1,050	.....	2	.....	10	1	175	100	2	1
Delaware and Hudson Co.,	Luzerne,	.....	250	.....	.....	550	1	.....	.....	14	1	900	600	.....	.....
People's Bank, Receiver,	Luzerne,	18	2,518	.....	2,518	5,518	.....	.....	.....	36	2	3,800	2,500	.....	1
Stevens Coal Co.,	Luzerne,	8	1,110	.....	1,110	1,400	1	.....	.....	13	6	3,800	2,500	.....	1
W. G. Payne and Co.,	Luzerne,	7	1,262	.....	1,262	1,262	.....	.....	.....	13	3	4,000	2,800	.....	1
Northern Anthracite Coal Co.,	Sullivan,	4	400	.....	400	400	.....	.....	.....	6	3	385	175	.....	1
Wyoming Coal and Land Co.,	Luzerne,	5	525	.....	525	525	1	.....	.....	9	2	240	110	.....	2
Robertson and Law Coal Co.,	Luzerne,	6	460	.....	460	460	.....	.....	.....	7	2	176	147	.....	.....
W. B. Guntton Coal Co.,	Sullivan,	2	135	.....	135	135	.....	.....	.....	2	1	.....	.....	.....	.....
Reliance Coal Co.,	Luzerne,	1	125	.....	125	125	.....	.....	.....	2	.....	.....	.....	.....	.....
Troy Coal Co.,	Luzerne,	5	180	.....	180	180	.....	.....	.....	1	.....	.....	.....	.....	.....
Meyers Coal Co.,	Luzerne,	2	150	.....	150	150	.....	.....	.....	1	.....	.....	.....	.....	.....
Totals,	.....	135	4,110	152	24,195	28,305	15	3	14	348	56	56,450	92,362	11	16



TABLE 3.—Number of each class of employees inside and outside of mines

Names of Operators and Collieries	County	Inside										Outside							Grand totals inside and outside			
		Mine foremen	Assistant mine foremen	Fire bosses and assistants	Miners	Miners' laborers	Drivers and runners	Door boys and helpers	Pumpmen	Company men	All other employees	Total inside	Superintendents	Foremen	Blacksmiths and carpenters	Engineers and firemen	State pickers (boys)	State pickers (men)		Book-keepers and clerks	All other employees	Total outside
Lehigh Valley Coal Co.	Luzerne, .....	1	2	5	235	119	73	3	2	.....	58	498	.....	1	21	11	29	29	3	189	254	752
Malby, .....	Luzerne, .....	2	1	4	239	181	86	6	7	.....	98	625	1	1	20	10	31	.....	4	14	215	840
Exeter colliery, .....	Luzerne, .....	2	1	4	140	115	50	16	10	54	25	417	.....	1	11	23	36	26	3	88	188	605
Seneca colliery, .....	Luzerne, .....	5	3	15	614	415	209	25	19	54	181	1,540	1	3	52	44	87	55	10	405	657	2,197
Totals, .....																						
Temple Iron Co.	Luzerne, .....	1	2	2	184	117	59	12	7	61	.....	443	.....	1	12	11	58	9	2	37	130	573
Forty Fort, .....	Luzerne, .....	1	1	6	219	206	80	34	5	53	.....	605	.....	2	12	16	72	14	2	78	196	801
Harry E., .....	Luzerne, .....	1	1	3	202	127	41	11	9	63	.....	548	.....	1	17	23	34	22	3	65	175	713
Mt. Lookout, .....	Luzerne, .....	5	11	11	695	450	180	57	21	177	.....	1,596	.....	4	41	50	164	45	7	180	491	2,087
Totals, .....																						
Kingston Coal Co.	Luzerne, .....	2	1	5	297	150	94	20	9	.....	152	730	1	2	20	32	173	.....	2	10	240	1,070
Kingston, .....																						
Pennsylvania Coal Co.	Luzerne, .....	2	2	2	163	163	43	11	3	33	4	424	.....	1	6	16	26	28	2	63	142	566
Central, .....	Luzerne, .....	2	2	2	219	216	88	18	2	10	25	582	.....	2	6	10	18	20	2	61	119	701
Barnum, .....		4	4	4	382	379	131	29	5	43	20	1,006	.....	3	12	28	44	48	4	124	261	1,267
Totals, .....																						



TABLE 3.—Continued

Names of Operators and Companies	County	Inside										Outside										Grand totals inside and outside
		Mine foremen	Assistant mine foremen	Fire bosses and assistants	Miners	Miners' laborers	Drivers and runners	Poor boys and helpers	Pumpmen	Company men	All other employes	Total inside	Superintendents	Foremen	Blacksmiths and carpenters	Engineers and firemen	State pickers (boys)	State pickers (men)	Book-keepers and clerks	All other employes	Total outside	
Delaware, Lackawanna and Western Railroad Co.	Luzerne,	1	3	146	146	61	15	2	13	59	446	1	1	1	5	16	61	5	2	74	167	611
Pettebone washery,	Luzerne,																			29	26	29
Totals,		1	3	146	146	61	15	2	13	59	446	1	2	2	6	18	61	6	3	94	191	637
Clear Spring Coal Co.	Luzerne,	1	1	4	230	215	59	7	86	675	675	1	1	1	7	12	60	7	5	53	146	821
Clear Spring washery,	Luzerne,																			25	25	25
Totals,		1	1	4	230	215	59	7	86	675	675	1	1	1	7	12	60	7	5	78	171	846
Raub Coal Co.	Luzerne,	1	3	1	136	46	44	7	4	35	12	289	1	1	1	8	21	48	12	4	60	444
Cornell Anthracite Mining Co.	Sullivan,	1	1	387			25	7	4	40	20	285	1	1	1	4	13	28	2	3	79	416
Delaware and Hudson Co.	Luzerne,	1	1	127	119	59	4	2	13	10	337	1	1	1	7	12	34	27	2	54	138	475
People's Bank, Receiver.	Luzerne,	1	1	4	58	60	36	10	4	39	12	225	1	1	1	5	17	18	21	2	75	365
Black Diamond washery,	Luzerne,																			10	10	10
Totals,		1	1	4	58	60	36	10	4	39	12	225	1	1	1	5	17	18	21	2	85	375

Stevens Coal Co.	1	...	5	31	67	35	5	3	10	15	229	1	1	9	12	22	10	2	57	114	343
W. G. Payne and Co.	1	3	2	43	25	40	7	7	46	5	179	1	2	4	14	32	21	4	46	124	303
East Boston,	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Northern Anthracite Coal Co.	1	...	...	40	35	9	2	1	8	4	100	2	1	2	5	20	5	2	15	62	162
Murray,	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Wyoming Coal and Land Co.	1	1	...	84	55	17	5	2	18	...	183	...	1	5	9	16	16	2	17	66	249
Robertson and Law Coal Co.	1	...	...	49	47	17	3	2	5	19	143	1	1	3	9	24	...	2	22	62	205
Katydidd,	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
W. B. Gunton Coal Co.	1	...	...	25	25	4	...	1	2	...	58	...	1	2	3	9	...	1	10	29	87
Lykens,	1	...	...	1	14	15	5	...	1	5	43	1	1	2	3	9	...	1	10	27	70
Reliance Coal Co.	1	...	...	22	28	6	...	...	...	...	57	...	1	...	2	6	3	1	2	15	72
Troy Coal Co.	1	...	...	...	...	...	...	...	...	...	...	...	1	1	4	...	2	1	17	27	27
Meyers Coal Co.	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Meyers washery,	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Grand totals,	30	15	50	3,240	2,278	1,044	255	94	594	518	8,121	15	28	189	306	866	285	58	1,464	3,211	11,332

TABLE 3.—Recapitulation

Lehigh Valley Coal Co.,	5	3	15	614	415	209	25	19	54	181	1,540	1	3	52	44	87	55	10	405	67	2,197
Temple Iron Co.,	5	...	...	6	450	180	57	21	177	...	1,596	...	4	41	50	164	45	7	190	491	2,087
Pennsylvania Coal Co.,	4	...	...	352	379	131	29	5	43	29	1,096	...	3	12	26	44	48	4	124	261	1,267
Delaware, Lackawanna, and	1	...	...	146	146	61	15	2	13	59	446	1	2	6	18	61	6	3	94	191	637
Clear Spring Coal Co.,	1	1	4	230	215	72	59	7	86	...	675	1	1	7	12	60	7	5	78	171	846
People's Bank, Receiver,	1	1	4	58	60	76	10	4	39	12	235	1	1	5	17	18	21	2	85	150	375
Delaware and Hudson Co.,	1	1	1	127	119	59	4	2	13	10	337	1	1	7	12	34	27	2	51	138	475
Miscellaneous companies,	12	9	11	988	494	296	56	34	163	227	2,236	10	13	59	127	398	76	25	414	1,152	3,448
Luzerne,	30	15	53	3,240	2,278	1,044	255	94	594	518	8,121	15	28	189	306	866	285	58	1,464	3,211	11,332
Totals,	30	15	53	3,240	2,278	1,044	255	94	594	518	8,121	15	28	189	306	866	285	58	1,464	3,211	11,332



TABLE 4.—Fatal accidents inside and outside of mines

Date of accident	Name of Person	Nationality	Occupation	Age	Married or single	Number of widows	Number of orphans	Name of Mine	County	Nature and Cause of Accident in Brief
Jan. 4	Oscar Miller, .....	American, ..	Laborer, ....	38	S.	.....	.....	Lanccliffe, .....	Luzerne, .....	Fatally injured by fall of top rock while standing props.
8	Frank Simos, .....	Lithuanian, ..	Miner, .....	27	M. 1	.....	.....	Mt. Lookout, .....	Luzerne, .....	Fatally injured by a premature blast.
11	Wm. P. Ryan, .....	Welsh, .....	Miner, .....	47	M. 1	4	.....	Kingsdon No. 4, ..	Luzerne, .....	Instantly killed by falling down shaft.
20	John Shoberg, .....	Polish, .....	Laborer, ....	24	S.	.....	.....	Lanccliffe, .....	Luzerne, .....	Instantly killed by being squeezed between car and rib.
Feb. 9	George Dickente, .....	Polish, .....	Miner, .....	24	S.	.....	.....	Exeter, .....	Luzerne, .....	Instantly killed by fall of middle rock in his chamber.
22	Mathias Grablick, .....	Lithuanian, ..	Miner, .....	25	S.	.....	.....	Mt. Lookout, .....	Luzerne, .....	Instantly killed by falling down shaft.
27	Anthony Crutnietzky, ..	Lithuanian, ..	Laborer, ....	33	S.	.....	.....	Exeter, .....	Luzerne, .....	Instantly killed by fall of top rock in his chamber.
March 2	Amado Edgin, .....	Italian, .....	Laborer, ....	36	M. 1	3	.....	Exeter, .....	Luzerne, .....	Fatally injured by a fall of rider coal.
8	Anthony Caposkus, .....	Polish, .....	Laborer, ....	27	S.	.....	.....	Harry E., .....	Luzerne, .....	Fatally injured by fall of top rock.
11	John Mimiukis, .....	Polish, .....	Miner, .....	27	S.	.....	.....	Forty Fort, .....	Luzerne, .....	Fatally injured by fall of top rock.
April 8	Frank Jamesky, .....	Polish, .....	Laborer, ....	33	M. 1	2	.....	Harry E., .....	Luzerne, .....	Instantly killed by being squeezed between car and rib.
9	John Kearns, .....	American, ..	Miner, .....	28	M. 1	2	.....	Exeter, .....	Luzerne, .....	Instantly killed by fall of top rock in gangway.
9	Michael Lynch, .....	Canadian, ....	Driver, .....	22	S.	.....	.....	Black Diamond, ..	Luzerne, .....	Instantly killed by a mule falling on him in gangway.
13	Michael Kimowitch, ....	Polish, .....	Laborer, ....	39	M. 1	1	.....	Mt. Lookout, .....	Luzerne, .....	Instantly killed by a fall of top rock in chamber.
May 7	Peter Brown, .....	Russian, .....	Miner, .....	42	M. 1	6	.....	Lanccliffe, .....	Luzerne, .....	Instantly killed by fall of top rock in his chamber.
10	Peter Posumsky, .....	Polish, .....	Door boy, ....	16	S.	.....	.....	Harry E., .....	Luzerne, .....	Fatally injured by being kicked by a mule.
19	Joseph Geary, .....	American, ..	Machineist helper, ..	42	M. 1	4	.....	Harry E., .....	Luzerne, .....	Instantly killed by bursting steam pipe outside.
24	John Knapp, .....	Slavonian, ..	Miner, .....	35	M. 1	1	.....	Exeter, .....	Luzerne, .....	Instantly killed by a fall of soap stone in chamber.
June 13	Wm. J. O'Malley, ....	American, ..	Laborer, ....	21	S.	.....	.....	Laws shaft, .....	Luzerne, .....	Instantly killed by fall of top coal in chamber.
20	Joseph Kobarsky, .....	Polish, .....	Miner, .....	32	M. 1	1	.....	Mt. Lookout, ....	Luzerne, .....	Instantly killed by a fall of top rock in his chamber.

TABLE 4.—Continued

Date of accident	Name of Person	Nationality	Occupation	Age	Married or single	Number of widows	Number of orphans	Name of Mine	County	Nature and Cause of Accident in Brief
June	George Jazaskey, .....	Polish, .....	Miner, .....	33	S	.....	.....	Mt. Lookout, ....	Luzerne, .....	Instantly killed by a fall of top rock in his chamber.
21	Arthur Euradine, .....	English, .....	Slate picker, .....	14	S	.....	.....	Central, .....	Luzerne, .....	Fatally injured by falling into pony roller in breaker, outside.
24	Stephen Dobray, .....	Hungarian, .....	Miner, .....	38	M	1	6	Maltby, .....	Luzerne, .....	Instantly killed by a flying piece of coal from shot.
July	Joseph Moeskie, .....	Polish, .....	Miner, .....	35	M	1	3	Barnum No. 2, ....	Luzerne, .....	Instantly killed by a fall of rider coal in chamber.
18	Frank Laktish, .....	Hungarian, .....	Laborer, .....	44	M	1	.....	East Boston, ....	Luzerne, .....	Instantly killed by fall of top coal in his chamber.
29	John Hoopsy, .....	Austrian, .....	Miner, .....	25	M	1	1	Black Diamond, ..	Luzerne, .....	Instantly killed by being squeezed between car and rib.
23	John Bilah, .....	Slavonian, .....	Patcher, .....	19	S	.....	.....	Louise, .....	Luzerne, .....	Fatally injured by being kicked by mule.
26	Louis Strahonich, .....	Austrian, .....	Miner, .....	31	M	1	2	Black Diamond, ..	Luzerne, .....	Fatally injured by a prop falling on him.
28	Frank Lipka, .....	Polish, .....	Laborer, .....	32	M	1	.....	Twin shaft, .....	Luzerne, .....	Instantly killed by falling down shaft.
28	George Grannis, .....	Polish, .....	Miner, .....	30	M	1	.....	Twin shaft, .....	Luzerne, .....	Instantly killed by a premature blast in gangway.
28	Stanley Regues, .....	Polish, .....	Laborer, .....	40	S	.....	.....	Harry E., .....	Luzerne, .....	Instantly killed by a fall of top rock in his chamber.
Aug.	Peter Dununis, .....	Russian, .....	Miner, .....	38	M	1	7	Louise, .....	Luzerne, .....	Instantly killed by fall of top rock in gangway.
11	Tokopio Bioglinio, .....	Italian, .....	Laborer, .....	46	M	1	5	Exeter, .....	Luzerne, .....	Instantly killed by fall of top rock in chamber.
11	Wm. Laxento, .....	Lithuanian, .....	Laborer, .....	25	S	.....	.....	Exeter, .....	Luzerne, .....	Fatally injured by a fall of dividing rock in chamber.
24	Paul Batis, .....	Polish, .....	Miner, .....	48	M	1	4	Clear Spring, ....	Luzerne, .....	Instantly killed by a fall of top rock in his chamber.
Sept.	James Lyons, .....	American, .....	Slate picker, .....	16	S	.....	.....	Langeliffe, .....	Luzerne, .....	Fatally injured by being squeezed between cars, outside.
14	Peter Bozinsky, .....	Polish, .....	Loader, .....	41	M	1	2	Central, .....	Luzerne, .....	Fatally injured by being run over by locomotive, outside.
Oct.	Matthew Brutoski, .....	Polish, .....	Laborer, .....	26	S	.....	.....	Harry E., .....	Luzerne, .....	Instantly killed by fall of top in chamber.
Nov.	John Williams, .....	Welsh, .....	Coal tender, .....	57	S	.....	.....	Barnum No. 3, ....	Luzerne, .....	Instantly killed by being run over by cars.
10	Joseph Kawowsky, .....	Polish, .....	Laborer, .....	30	S	.....	.....	Griffith, .....	Luzerne, .....	Instantly killed by a fall of rider coal in chamber.



11	Andrew Sapko, .....	Slavonian, .....	Miner, .....	49	M. 1	1	Maltby, .....	Luzerne, .....	Fatally injured by a fall of coal in his chamber, .....
16	Samuel Bartlett, .....	English, .....	Miner, .....	49	M. 1	2	Barnum No. 3, ..	Luzerne, .....	Fatally injured by a fall of rider coal in his chamber, .....
22	Michael Goruinski, .....	Polish, .....	Miner, .....	28	M. 1	.....	Columbia, .....	Luzerne, .....	Fatally injured by a fall of top coal in his chamber, .....
2	Chas. Meleskie, .....	Polish, .....	Laborer, .....	23	M. 1	.....	Louise, .....	Luzerne, .....	Instantly killed by a fall of top rock in his chamber, .....
3	Frank Penino, .....	Italian, .....	Miner, .....	39	S. 1	.....	Maltby, .....	Luzerne, .....	Instantly killed by a premature blast in his chamber, .....
3	Paul Ball, .....	Italian, .....	Laborer, .....	24	S. 1	.....	Maltby, .....	Luzerne, .....	Fatally injured by a premature blast in his chamber, .....
13	Wm. Saunders, .....	American, ..	Gate tender, ..	15	S. 1	.....	Pettebone, .....	Luzerne, .....	Instantly killed by falling from breaker to ground, outside, .....
17	James Nicholas, .....	English, .....	Headman, ..	38	M. 1	1	Katybid, .....	Luzerne, .....	Fatally injured by falling from trestle, outside, .....
23	Andrew Dvorsky, .....	American, ..	Miner, .....	25	S. 1	.....	Exeter, .....	Luzerne, .....	Fatally injured by explosion of gas in old chamber, .....
27	Steve Sarkovitz, .....	German, .....	Driver, .....	19	S. 1	.....	Maltby, .....	Luzerne, .....	Fatally injured by being run over by cars, .....
29	Mike Trodkemus, .....	Polish, .....	Miner, .....	37	M. 1	3	Kingston No. 4, ..	Luzerne, .....	Fatally injured by fall of top rock in his chamber, .....
30	Wm. Duncan, .....	Scotch, .....	Miner, .....	24	S. 1	.....	Lykens, .....	Sullivan, .....	Fatally injured by fall of top coal in his chamber, .....

TABLE 5.—Non-fatal accidents inside and outside of mines

Date of accident	Name of Person	Nationality	Occupation	Age	Married or single	Name of Mine	County	Nature and Cause of Accident in Brief
Jan. 5	Patrick Gavigan, .....	Irish, .....	Timberman, ..	48	M.	Seneca Twin, .....	Luzerne, .....	Ankle fractured by a piece of falling coal.
11	William Hallston, .....	Scottish, .....	Foreman, .....	45	M.	Seneca, .....	Luzerne, .....	Leg broken by a fall of top rock while making an examination.
12	Mike Pokus, .....	Polish, .....	Miner, .....	31	M.	Connell, .....	Sullivan, .....	Leg broken by being struck by a car on motor road.
13	Edwyllym Evans, .....	Walsh, .....	Bratticeeman, .	34	M.	Exeter No. 2, .....	Luzerne, .....	Injured about the back by a runaway car.
20	Peter Rososki, .....	Polish, .....	Miner, .....	52	M.	Twin Seneca, .....	Luzerne, .....	Injured about the back by a fall of top rock in his chamber.
22	John Walsh, .....	Irish, .....	Plate boss, ...	45	S.	Harry E., .....	Luzerne, .....	Ribs broken by being bumped by cars, outside.
25	Thomas McManus, .....	American, .....	Driver, .....	18	S.	Harry E., .....	Luzerne, .....	Leg broken by being run over by an empty car.
25	Joseph Fine, .....	Italian, .....	Flusher, .....	25	S.	Pettebone, .....	Luzerne, .....	Leg broken by jumping off platform at washery, outside.
Feb. 1	Anthony Chupwis, .....	Polish, .....	Miner, .....	28	M.	Stevens, .....	Luzerne, .....	Compound fracture of the knee by a premature blast.
9	John Borash, .....	Polish, .....	Door boy, ....	17	S.	Kingston No. 1, ...	Luzerne, .....	Bruised about shoulders by being squeezed between door and ribs broken by being squeezed between cars, outside.
9	George Verock, .....	Polish, .....	Loader, .....	35	M.	Seneca, .....	Luzerne, .....	Leg crushed by fall of top rock in his chamber.
20	Geo. P. P. P., .....	Italian, .....	Miner, .....	44	M.	Exeter, .....	Luzerne, .....	Leg broken at the knee by a fall of roof and soap stone.
23	James Lavelle, .....	Ameri an, .....	Laborer, .....	21	S.	Northern Anthracite	Sullivan, ...	Leg broken by a piece of coal rolling on him.
26	John Saffery, .....	English, .....	Miner, .....	58	M.	Black Diamond, ..	Luzerne, .....	Ribs broken and arm bruised by fall of top rock.
March 14	Mich Deves avich, .....	Polish, .....	Miner, .....	38	M.	Coxey, .....	Luzerne, .....	Leg broken by fall of top rock in his chamber.
21	Ralph Loecker, .....	American, .....	Miner, .....	22	M.	Katydid, .....	Luzerne, .....	Injured about abdomen by being caught between car and plank, outside.
25	Howard Groumel, .....	American, .....	Chain haul- man, .....	16	S.	Maltby, .....	Luzerne, .....	Hip dislocated and back bruised by fall of rock in his chamber.
29	Julian Shimiski, .....	Polish, .....	Miner, .....	50	M.	Langeliffe, ....	Luzerne, .....	

39	April	Marko Milowich,	.....	Hungarian,	.....	Laborer,	.....	39	S.	Black Diamond,	.....	Luzerne,	.....	Two fingers on right hand cut off by fall of rider coal.
11		Chas. Simowites,	.....	Polish,	.....	Driver,	.....	16	S.	East Boston,	.....	Luzerne,	.....	Scalp wound and bruised about the body by falling under cars.
19		Peter Pelomer,	.....	Polish,	.....	Miner,	.....	28	M.	Black Diamond,	.....	Luzerne,	.....	Leg fractured by car in his chamber.
27		Michael Lucatch,	.....	Hungarian,	.....	Carpenter,	.....	15	M.	Kingston No. 1,	.....	Luzerne,	.....	Itibs and breast bone broken by being squeezed between car and post, outside.
3	May	Mike Emorlavich,	.....	Polish,	.....	Miner,	.....	45	S.	Clear Spring,	.....	Luzerne,	.....	Leg fractured by runaway car on slip.
5		Fred. Gusart,	.....	American,	.....	Slope tender,	.....	25	M.	Black Diamond,	.....	Luzerne,	.....	Leg broken and toe smashed by being caught between cars.
5		Arthur Sesson,	.....	Austrian,	.....	Laborer,	.....	27	S.	Black Diamond,	.....	Luzerne,	.....	Two toes cut off by fall of middle rock in chamber.
11		Simon Prowish,	.....	Slavonian,	.....	Miner,	.....	24	S.	Harry E.,	.....	Luzerne,	.....	Injured about the head from premature blast.
17		David Powell,	.....	American,	.....	Driver,	.....	17	S.	Exeter,	.....	Luzerne,	.....	Broken and right ear cut off by cars.
18		Mike Butsavage,	.....	Polish,	.....	Miner,	.....	37	M.	Clear Spring,	.....	Luzerne,	.....	Burned by an explosion of black powder.
23		Enoch Mozzius,	.....	Polish,	.....	Laborer,	.....	24	S.	Harry E.,	.....	Luzerne,	.....	Cut about back and head by flying coal.
31		Charles Kelly,	.....	American,	.....	Loader,	.....	19	S.	Exeter,	.....	Luzerne,	.....	Leg broken between knee and foot by revolving screen, outside.
15	June	Michael Killy,	.....	Irish,	.....	Miner,	.....	36	M.	Twin,	.....	Luzerne,	.....	Shot by premature blast.
17		Claude Morgans,	.....	American,	.....	Driver,	.....	19	S.	Louise,	.....	Luzerne,	.....	Broken leg and cuts on head by being caught by car.
18		Joseph Trevallis,	.....	Polish,	.....	Miner,	.....	22	S.	Clear Spring,	.....	Luzerne,	.....	Burned about face and back by explosion of gas.
27		Frank Beasup,	.....	Slavonian,	.....	Miner,	.....	28	S.	Forty Fort,	.....	Luzerne,	.....	Leg broken by rope slipping from side pulley.
29		George Burby,	.....	English,	.....	Miner,	.....	69	S.	Mt. Lookout,	.....	Luzerne,	.....	Leg broken by prop falling on him.
10	July	Albert Jenkins,	.....	American,	.....	Machinist,	.....	40	M.	Mt. Lookout,	.....	Luzerne,	.....	Burned about face and hands by steam, outside.
19		John Quinn,	.....	American,	.....	Footman,	.....	50	S.	Barnum No. 3,	.....	Luzerne,	.....	Both arms and legs broken by falling of outside.
4	Aug.	John Hefferan,	.....	American,	.....	Slate picker,	.....	14	S.	Griffith,	.....	Luzerne,	.....	Both arms and legs broken by falling of breaker steps, outside.
4		Daniel Williams,	.....	American,	.....	Mine foreman,	.....	36	M.	Twin,	.....	Luzerne,	.....	Severely hurt by gas and leg broken.
11		Wassel Sabinsky,	.....	Polish,	.....	Timberman,	.....	40	M.	Twin,	.....	Luzerne,	.....	Turned by gas about hands and face.
19		John McGroarty,	.....	American,	.....	Laborer,	.....	20	S.	Exeter,	.....	Luzerne,	.....	Hip dislocated by a piece of old rock.
24		William Brow,	.....	American,	.....	Doorboy,	.....	17	S.	Pettebone,	.....	Luzerne,	.....	Compression of skull and bruised arm by runaway car.
27		Fred. Anderson,	.....	American,	.....	Miner,	.....	27	S.	Pettebone,	.....	Luzerne,	.....	Broken arm by prop falling on him.
27		Joseph Smith,	.....	Polish,	.....	Driver,	.....	19	S.	Mt. Lookout,	.....	Luzerne,	.....	Bruised on hips and legs by cars.
29		Peter Kasliotis,	.....	Polish,	.....	Laborer,	.....	40	M.	Columbia,	.....	Luzerne,	.....	Broken leg by a fall of coal.
3	Sept.	Joseph Wenchent,	.....	Polish,	.....	Miner,	.....	45	M.	Kingston No. 4,	.....	Luzerne,	.....	Burned by powder on legs and right shoulder.
3		Gabriel Kolski,	.....	Polish,	.....	Laborer,	.....	72	M.	Kingston No. 4,	.....	Luzerne,	.....	Burned about face and hands by explosion of gas.
3		Brindly Davis,	.....	Welsh,	.....	Slope runner,	.....	2	M.	Kingston No. 4,	.....	Luzerne,	.....	Burned about face and hands by explosion of gas.
3		Reese Williams,	.....	American,	.....	Driver,	.....	30	S.	Kingston No. 4,	.....	Luzerne,	.....	Burned about face and hands by explosion of gas.
6		Paul Bender,	.....	Russian,	.....	Laborer,	.....	27	M.	Mt. Lookout,	.....	Luzerne,	.....	Leg broken at thigh by fall of money coal.
8		Mike Murphy,	.....	Irish,	.....	Miner,	.....	58	M.	Forty Fort,	.....	Luzerne,	.....	Cut over right eye and bruised internally by runaway car.

TABLE 5.—Continued

Date of accident	Name of Person	Nationality	Occupation	Age	Married or single	Name of Mine	County	Nature and Cause of Accident in Brief
Sept.	10 Joseph Lukish.	Polish.	Miner.	35	S.	Forty Fort.	Luzerne.	Cut about face and right side by premature blast.
17	Charles Lavis.	American.	Driver.	17	S.	Kingston No. 1.	Luzerne.	Leg cut off by car running over it.
17	William Jenkins.	American.	Miller.	19	S.	Forty Fort.	Luzerne.	Cut on right side of head from flying pieces from blast.
28	John Chisar.	Slavonian.	Doerby.	17	S.	Exeter.	Luzerne.	Arm fractured by car running over it.
29	George Mikolajis.	Polish.	Miner.	40	M.	Clear Spring.	Luzerne.	Leg broken by fall of top coal in chamber.
29	John Gushitus.	Polish.	Driver.	22	S.	Forty Fort.	Luzerne.	Squeezed about hips between cars.
29	John Sanko.	Slavonian.	Miner.	31	M.	Forty Fort.	Luzerne.	Burned about face and hands by explosion of gas.
29	William Cadd.	American.	Runner.	22	S.	Forty Fort.	Luzerne.	Burned about face and hands by explosion of gas.
Oct.	10 Michael Conkol.	Hungarian.	Laborer.	18	S.	Harry E.	Luzerne.	Head and shoulders squeezed by screms from machine, outside.
10	Thomas Boyd.	American.	Miner.	49	M.	Pettibone.	Luzerne.	Bruised about ankles by rope slipping from pulley.
16	George Preston.	American.	Miner.	30	S.	Connell.	Sullivan.	Dislocated hip, squeezed between cars.
20	Joseph Kresna.	Polish.	Co. man.	23	S.	Clear Spring.	Luzerne.	Squeezed about head and body by cars.
31	Bradley Hoover.	American.	Laborer.	50	M.	Louise.	Luzerne.	Leg broken by piece of iron in breaker.
Nov.	11 Thomas Finnerty.	American.	Runner.	22	S.	Black Diamond.	Luzerne.	Injured about hips and legs by cars.
11	Bease Fru-chautie.	Italian.	Miner.	47	M.	Exeter.	Luzerne.	Dislocated hip by a piece of rock falling on him.
17	Steve Yatsou.	Slavonian.	Miner.	33	M.	Exeter.	Luzerne.	Burned by an explosion of gas in his chamber.
17	Peter Genera.	Slavonian.	Laborer.	26	S.	Exeter.	Luzerne.	Burned by an explosion of gas in his chamber.
22	George Clements.	Lithuanian.	Miner.	30	S.	Exeter.	Luzerne.	Leg broken by a piece of rock falling on him.
23	Charles Studders.	American.	Runner.	16	S.	Laws shaft, Central.	Luzerne.	Leg cut off by falling under cars.
30	Michael Minskis.	Polish.	Miner.	40	M.	Twain.	Luzerne.	Arm and ribs broken by premature blast.
1	J. H. Harding.	American.	Miner.	45	M.	Reliance.	Luzerne.	Eye crushed out by premature blast.
6	Simon Zambro.	Polish.	Laborer.	23	S.	Harry E.	Luzerne.	Bruised about face and body by gas in Red Ash vein.

15	Mike Cartrige, .....	Polish, .....	Miner, .....	41	M. Pottelbone, .....	Luzerne, .....	Broken leg and collar bone by premature blast.
16	John Smith, .....	Polish, .....	Laborer, .....	26	S. Coxe, .....	Luzerne, .....	Cut on head and face by premature blast.
17	Mike Wancoske, .....	Slavonian, .....	Footman, .....	23	S. Forty Fort, .....	Luzerne, .....	Arm broken by piece of ice falling down shaft.
28	Frederick Bottoms, .....	American, .....	Oiler, .....	16	S. Black Diamond, ...	Luzerne, .....	Leg broken by sprocket wheel in engine room, outside.



## CONDITION OF COLLIERIES

The condition of the mines in general is very satisfactory.

A remarkable improvement has been made in the ventilation in nearly all of the collieries, but there is still room for more, and we expect to see this kept up continuously from year to year until the whole system of ventilation in all the mines is perfect.

In non-gaseous mines, heretofore the question of ventilation was a secondary consideration, even with the miners themselves. They thought if sufficient air was moving to carry the smoke away during the night, so that the place would be clear in the morning, it was all right. I am glad to say that the foremen, almost without exception, are doing everything they can to keep the ventilation well up, even in the non-gaseous, as well as in the gaseous mines. In gaseous mines they must have plenty of good air or they cannot work, but in non-gaseous mines we encounter the most trouble.

The drainage is not what it should be in a number of the mines. This is largely due to flushing the culm into the mines. This kind of work is carried on very extensively in a number of the collieries in the district and seems to be meeting with great favor among the mining engineers in general. The work of flushing or silting the chambers and filling them up with fine culm is a very good idea, and every engineer should adopt it wherever practicable. It is a great support to the roof and sides during the progress of mining.

It is most advantageous when the work of robbing out pillars begins. There is one mine in particular in this district, where they have flushed culm for a number of years, and are still carrying on the same. They robbed the pillars out on a pretty extensive scale and are still robbing. I might say that the whole surface is now resting on culm. They get out about 90 per cent. of the coal, but were it not for the excellent system of flushing they pursue they would not get 50 per cent. of it.

I regret that I must again call attention to the important subject of the qualification of miners. Last year, when I referred to this matter, I hoped for better results this year, but instead I find conditions worse. Unless some radical changes are made in the granting of miners' certificates by the board of examiners, there will be no improvement. The only way to do is to demand better proof as to the length of time the applicants have served in the mines as laborers. There is no other occupation as dangerous as mining, and none that requires more skill and care.

## IMPROVEMENTS

## STEVENS COAL COMPANY

Stevens Colliery.—The air shaft in the Marcy vein which was enlarged and sunk to the Red Ash vein workings was equipped and started up, from which the No. 2 Marcy or Ross vein is being opened out and a 20 foot fan was placed on this shaft to ventilate the Marcy or Ross vein. It is further contemplated to put a new haulage system in the Red Ash vein and bring all the coal to the new hoisting plant.

During the month of July, this colliery was greatly troubled with a serious squeeze and the volume of gas liberated was surprising, of which the following statement will give a vague idea. After traveling with a volume of 120,000 cubic feet of air per minute, a distance of over one mile, the gas would explode in a safety lamp at the fan; and this would continue for four weeks; during which time it became necessary to keep guardsmen around the fan. To the credit of the officials of this company it should be said that although from forty to fifty men on each eight hours shift were employed in trying to arrest the squeeze and open the airways, and in putting in large pumps to meet the great inflow of water, and although contending with the greatest dangers possible in a mine, not a single person was injured; and the colliery resumed operations within seven weeks.

They were also troubled with the water from the great flood of 1904 in the Susquehanna river, which made channels between the rock and the surface wash, connecting the water from the old abandoned Pittston vein shaft to the cribbing of the Red Ash shaft, making possible an inflow of quicksand. It was therefore decided to dig an open cut around the Red Ash shaft cribbing, which is forty-two feet deep, and encase it with a concrete wall.

But on account of the squeeze referred to it was imperative that the shaft should be kept in working order. This could not readily be done with the open cut method, because of the tower piers being embedded in the surface within a few feet of the cribbing; so, after consultation with the mine inspector and other mine officials, the general manager of the company, Mr. Henry Kingsbury, suggested the following unique method which was adopted and carried out quite successfully.

Three small shafts or wells were put down, one at each end of the narrow way of the cribbing, and one on the side, or long way, of the cribbing. From these shafts tunnels or trenches three feet wide and six feet deep were commenced, twenty-four feet above the surface of

the rock, and about four feet above the level of the bed of troublesome quicksand, which was known to exist there.

These tunnels were driven from the three shafts at the same level, and connected all around the cribbing. As the work progressed it was protected by a lining of two-inch plank, six feet long. These planks were forced to place by home-made screw jacks, and kept in place by 2x4 inch wooden braces put between the planks and the cribbing.

After this enclosed trench was completed all around the cribbing, another like section was started, using the same method as before except that the plank of the second section was allowed to reach a few inches above the bottom of the first section, and lap over it, thus binding the two sections together. With this method continued, four sections of six feet each, or a total of twenty-four in depth by three feet in width, were cleared all around the cribbing, down to the surface of the solid rock.

After carefully clearing the rock surface the concrete was dropped down through vertical troughs in the shafts, and made in courses about three feet high. The screw jacks and wooden braces were moved as the work of concreting progressed, but no attempt was made to remove the plank lining in the back.

Although considerable trouble was experienced with the treacherous quicksand which was encountered in a bed of about 8 feet thick and about 12 feet above the surface of the rock, the work was completed with great satisfaction, and without in the least disturbing the working order of the shaft or doing the least damage to the lower foundations. The cost was very little more than the open cut method, and if finished to the top would cost less than the open cut method.

Considerable credit is due to the foreman on the work, David Isaacs, of Plymouth, to the contractors, Reese D. Isaacs and Son, of Dallas, for the successful completion of this undertaking.

They also installed a new 300 H. P. "Maxim" water tube boiler which is giving marvelous results in the complete combustion of the smallest size of anthracite coal and culm.

This type of boiler has only recently been introduced into the anthracite coal fields, but is already commanding wide-spread attention.

#### LEHIGH VALLEY COAL COMPANY

Exeter Colliery.—Finished installation of 300 H. P. Babcock and Wilcox water tube boilers.

The new air motor haulage plant mentioned in last year's report is finished and working satisfactorily. The haulage roads and air pipes have been extended and equipment increased with two eight

ton air locomotives which feed from the face of the chambers to main passing branches.

Permanent air bridges of brick and cement in Red Ash.

A new 20 foot Guibal double intake fan driven by 18x20 inch Corliss engine; brick house is under construction at Red Ash second opening.

New 10 inch steam line, 1,200 feet long, to Red Ash shaft hoist engine.

One hundred new mine cars.

Eighteen degree rock plane completed from Red Ash to Babylon vein, 110 feet.

A series of surface test holes continued to determine safe rock cover over Checker vein.

Extensive repairs made to breaker and washery.

Maltby Colliery.—Finished construction of new brick boiler house, and complete installation of 1,800 H. P. Babcock & Wilcox water tube boilers. The plant is in every way up to date. Equipped with force draught fan, duplicate feed pumps, Cochran water heater, utilizing exhaust from surrounding engines, fire proof, ashes washed into mines, rope conveyors bringing fuel from breaker. This new plant displaces 18 cylinder and 7 return tubular boilers.

Addition built to breaker, and new shakers displace revolving screens on Buck, Rice and Barley.

New conveyor lines on Rice and Buckwheat.

New mechanical pickers.

Extensive repairs and renewals to breaker frame.

New concrete fire house, and emergency water lines. Lehigh Valley Collieries have trained, well-equipped fire companies.

No. 9 tunnel water level, driven 790 feet, and No. 16 tunnel, driven 525 feet from surface to Red Ash vein, and surface road 1,200 feet long connecting same completed to chain haulage system.

No. 12 tunnel from Ross to Red Ash completed, 150 feet.

One hundred new mine cars.

#### KINGSTON COAL COMPANY

No. 4 Colliery—Have erected one 175 K. W. direct connected generator 250 volts; one pair 24x48 inch first motion slope engines, with two friction drums for use by bore holes upon Red Ash and Ross slopes (not yet in operation); one boiler plant (not yet in operation), consisting of 4 sets Babcock and Wilcox boilers, 300 H. P. each; one brick oil house.

They have added machinery and spiral pickers in breaker, which is a decided improvement in the preparation.

#### Inside

Have placed one Goyne duplex compound pump 16x28 inch and



10x36 inch, in Bennett vein and pumping through bore hole direct to surface. One small electric pump, 4x5 inch.

Have been driving slopes in Orchard, Bennett and Ross veins.

Are driving rock plane upon 15 degrees from Bennett vein to upper veins, which will cut Cooper, Lance, Orchard and Hillman veins.

#### DELAWARE, LACKAWANNA AND WESTERN RAILROAD COMPANY

Pettebone Colliery.—The new boiler plant referred to in my last report has been completed and is composed of 10 fore-box locomotive boilers.

Breaker improvements consist of mechanical pickers, elevators, conveyors and spring balance shakers for the preparation and cleaning of coal.

Inside improvements consist of two 7x12 rock tunnels, one driven from the Cooper to the Lance vein, the other was driven through what is known as the Pettebone anticlinal Hillman vein. The condition of haulage roads and return airways has been improved upon.

#### TEMPLE IRON COMPANY

Mount Lookout Colliery.—New boiler house (frame building) 140x40 feet inclosing 8 sets of Sterling boilers and one new rock crusher to crush all the mine rock which is returned and deposited in the mine.

#### CLEAR SPRING COAL COMPANY

Clear Spring Colliery.—Have erected a new washery at this colliery to prepare the marketable coal in their large culm dump. They run all the sedge and refuse from this washery into the mine. The cost of this washery was about \$25,000, and in addition to this the company expended nearly \$3,000 in yard improvements, which include the changing of their tracks, etc., making a total expenditure of about \$28,000.

#### PEOPLE'S BANK, RECEIVER (PLYMOUTH COAL COMPANY.)

Black Diamond Colliery.—Inside.—Driving one tunnel from Red Ash to Ross veins.

Erected at breaker one set of Emery slate pickers for separating slate from stove coal.

Outside.—Scraper line and rolls for breaking and conveying slate to mines for flushing mines.

Completed 12x72 inch x 18 feet return tubular boilers. These boilers were begun in 1903.

#### DELAWARE AND HUDSON COMPANY

Langeliffe Colliery.—No. 1 slope Checker vein, driven 400 feet to crop. No. 2 slope Red Ash vein driven 500 feet to crop.



A rope haul from the Checker haul to the mouth of No. 1 Checker drift has been installed.

New Jeanesville pump 18x12x18 inch has been installed at foot of shaft which pumps to the surface.

#### ROBERTSON AND LAW COAL COMPANY

Katydid Colliery.—Inside.—A new slope driven. They drove a rock slope 600 feet from the Spring Brook vein to bottom vein for the purpose of making a shorter haulage way; also made another opening for better ventilation and another way out for the men employed in that section of the mine.

#### CONNELL ANTHRACITE MINING COMPANY

Bernice Colliery.—No improvements at the Griffith colliery.

At the Bernice Colliery all improvements have been completed and are to be included in report for 1905.

In connecting the bottom vein with the upper vein by slope, contracts were made for under-cutting machines and a third rail locomotive.

The electrical power has been increased by the installment of a high speed engine and dynamo.

Details will be given in report for 1905.

#### PENNSYLVANIA COAL COMPANY

Barnum Colliery.—Outside.—Breaker remodeled to enable company to clean the mud screen coal separate from the coarse coal.

Shakers introduced on head to separate coal instead of bars.

Mechanical pickers throughout to clean the coal.

Steam tip at head of breaker to dump the cars.

Inside.—No. 1 shaft abandoned; coal taken to No. 2 shaft inside.

No. 2 shaft, new shaft tower and first motion engines 24x48 inch.

Culm slushed in the mines and new pumping plant to take care of water.

The mine car changed from 28 inch to 36 inch gauge.

No. 3 shaft, rock tunnel from Pittston vein to Checker vein.

New barns in Marcy vein No. 2 shaft and bottom vein No. 3 shaft and mules stabled inside, outside barns abolished.

Central Colliery.—Outside.—Addition built to breaker to wash all fine sizes and convey culm dump to breaker.

New boiler house with 8-150 H. P. Keeler locomotive boilers, equipped with all modern improvements.

New tower is being erected for Law shaft.

New slope from surface to Clark vein and Marcy. This coal to be pulled up slope and gravitated to breaker.

## LEHIGH VALLEY COAL COMPANY

Seneca Colliery.—During the latter part of December, 1903, a disturbance occurred in the Sixth vein workings of the Twin shaft near Susquehanna river.

On Friday morning, January 1, it was discovered that the D., L. and W. bridge, crossing the Susquehanna river had sunk eight inches in the center. As this bridge is located over the Old Twin workings it was reasoned that the present disturbance was caused by the gradual settling of the old workings. To check the trouble a great number of cogs were placed, and the workings thoroughly silted, filling all the places thoroughly. By this means the squeeze was effectually stopped.

Two bore holes were driven from the surface to the sixth vein on the Bank farm tract for pumping purposes.

A rock tunnel was driven from the Marcy vein workings in the Coxey shaft to a point near the foot of the Twin shaft in the same vein. This enabled the abandoning of the Coxey as a coal shaft. Coal is now hauled from the workings in the shaft by an electric motor to the Twin shaft.

Two shafts were sunk to the Pittston vein at a point about 600 feet southwest of the Seneca breaker; one for a coal shaft, the other for a second opening. Coal is now being hoisted from this vein.

The hoisting apparatus has been taken away from the old Columbia shaft. A system of stairs has been put in place in the shaft by which means men can go to and from their work if they so desire.

Two tunnels were driven from the bottom of the upper split of the Marcy in the Coxey shaft.

A tunnel was driven in the Twin shaft from the 6th vein 350 feet at an angle of 20 degrees through a fault on the Bank farm tract.

## Seventh District

LUZERNE COUNTY

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Wilkes-Barre, Pa., February 28, 1905.

Hon. James E. Roderick, Chief of Department of Mines:

Sir: I have the honor to transmit herewith my first annual report as Inspector of Mines of the Seventh Anthracite District for the year ending December 31, 1904.

You will find therein the statistics as required by law, as well as some observations regarding the causes and prevention of accidents.

The production of coal shows an increase of 282,105 tons over that of 1903, and I regret to state that there was also an increase of twenty-four in the number of fatal accidents.

Respectfully submitted,

JAMES MARTIN,  
Inspector.

## SUMMARY OF STATISTICS

Number of collieries, .....	19
Number of mines, .....	50
Number of mines in operation, .....	50
Number of tons of coal shipped to market, .....	4,472,609
Number of tons used at mines for steam and heat, .....	486,769
Number of tons sold to local trade and used by employes, ..	249,201
Number of tons of coal produced, .....	5,208,579
Number of persons employed inside of mines, .....	8,763
Number of persons employed outside, .....	3,764
Number of fatal accidents inside of mines, .....	51
Number of fatal accidents outside, .....	12
Number of non-fatal accidents inside of mines, .....	95
Number of non-fatal accidents outside, .....	20
Number of tons of coal produced per fatal accident inside, ..	102,129
Number of persons employed per fatal accident inside, ..	172
Number of persons employed per fatal accident outside, ..	314
Number of persons employed per non-fatal accident inside, ..	92
Number of persons employed per non-fatal accident outside, ..	188
Number of wives made widows by fatal accidents, .....	37
Number of children orphaned by fatal accidents, .....	75
Number of steam locomotives used inside of mines, .....	3
Number of steam locomotives used outside, .....	25
Number of compressed air locomotives used inside, .....	4
Number of electric motors used inside, .....	5
Number of fans used for ventilation, .....	52
Number of gaseous mines in operation, .....	42
Number of non-gaseous mines in operation, .....	8
Number of new mines opened, .....	2

TABLE A.

## PRODUCTION OF COAL

Names of Operators	Tons
Lehigh and Wilkes-Barre Coal Company, .....	1,815,622
Susquehanna Coal Company, .....	1,239,218
Delaware, Lackawanna and Western Railroad Company, .	586,945
Lehigh Valley Coal Company, .....	580,846
Alden Coal Company, .....	286,292
Red Ash Coal Company, .....	214,951
Delaware and Hudson Company, .....	195,167
Warrior Run Mining Company, .....	193,466
Pittston Coal Mining Company, .....	88,686
Wilkes-Barre and Scranton Coal and Iron Company, . . . .	7,386
<hr/>	
Total, .....	5,208,579
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## Production by Counties

Luzerne, .....	5,208,579
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TABLE B.—Fatal and non-fatal accidents inside and outside of mines; number of tons of coal produced per accident; number of persons employed; number employed per accident

Names of Operators	Fatal Accidents			Non-Fatal Accidents			Tons of coal produced per fatal accident inside	Tons of coal produced per non-fatal accident inside	Number of employees inside	Number of employees outside	Total number of employees	Number of employees inside per fatal accident	Number of employees outside per fatal accident	Number of employees inside per non-fatal accident	Number of employees outside per non-fatal accident
	Inside	Outside	Total	Inside	Outside	Total									
Lehigh and Wilkes-Barre Coal Co., .....	17	1	18	28	4	42	10,501	47,780	2,703	1,023	3,726	161	1,023	72	228
Susquehanna Coal Co., .....	9	4	13	22	10	32	137,691	56,328	2,493	1,186	3,679	277	257	113	119
Delaware, Lackawanna and Western R. R.	13	.....	13	16	1	17	45,150	32,654	946	374	1,314	72	.....	59	374
Lehigh Valley Coal Co., .....	5	3	8	1	1	2	96,808	116,769	1,916	356	1,313	163	71	293	374
Albion Coal Co., .....	1	.....	1	1	.....	1	115,106	211,511	211	211	422	253	.....	198	357
Red Ash Coal Co., .....	1	.....	1	1	3	4	211,511	195,167	293	111	404	291	.....	201	66
Delaware and Hudson Co., .....	1	.....	1	1	.....	1	193,165	193,165	247	164	411	347	.....	333	.....
Warrior Run Mining Co., .....	1	.....	1	5	.....	5	193,165	17,297	135	79	214	135	79	27	.....
Pittston Coal Mining Co., .....	1	1	2	2	.....	2	188,656	17,297	65	33	98	.....	.....	33	33
Wilkes-Barre and Scranton Coal and Iron Co.,	1	1	2	.....	1	.....	.....	3,697	.....	.....	.....	.....	.....	.....	.....
L. L. and W. R. R. Co., Truesdale mine,* .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Totals and averages for district, .....	51	12	63	95	29	115	192,129	51,327	8,763	3,764	12,527	172	311	92	188

\*Just being opened; not yet shipping coal.



TABLE D.—Classification of non-fatal accidents inside and outside of mines

	Inside										Outside						Grand Total
	By Falls of			By mine cars	By explosion of gas	Struck by gas	By powder and dynamite	By blasts, etc.	Shafts	Slopes	Manways, breasts, etc.	Crushed at batteries	By mules	Suffocated by coal, etc.	Miscellaneous causes	Total inside	
	Coal	State	Hoof														
January, .....	1				1		1										3
February, .....	1																1
March, .....																	
April, .....											1						1
May, .....																	
June, .....																	
July, .....									1								1
August, .....																	
September, .....							1	1									2
October, .....					1												1
November, .....																	
December, .....																	
Totals, .....	4			1	1		3	11	1		1						20

TABLE E.—Occupations of persons killed or fatally injured inside and outside of mines

	Inside										Outside										Grand total	
	Mine foremen	Assistant mine foremen	Fire bosses and assistants	Miners	Miners' laborers	Drivers and runners	Door-boys and helpers	Lumpmen	Company men	All other employees	Total inside	Superintendents	Foremen	Blacksmiths and carpenters	Engineers and firemen	State pickers (boys)	State pickers (men)	Book-keepers and clerks	All other employees	Total outside		
January, .....				2	2					1	5						1			1	2	7
February, .....				1	1						2										2	3
March, .....				1	1					2	4			1						4	5	9
April, .....				1	1	1				2	5									1	1	6
May, .....				1	1						2											3
June, .....				1	1						2						1				1	4
July, .....				1	1						2											3
August, .....				2	4					1	7											11
September, .....				1	1						2											3
October, .....				4	1						5						1			1	2	7
November, .....					1			1			2									1	1	3
December, .....											1											1
Totals, .....				19	21	1	1	1		6	51			1			3			8	12	63





TABLE G.—Nationality of Persons Killed or Fatally Injured Inside and Outside of Mines

	American	English	Welsh	Irish	German	Polish	Italian	Slavonian	Lithuanian	Austrian	Russian	Totals
January, .....	1	.....	1	1	.....	3	1	.....	.....	.....	.....	7
February, .....	1	.....	.....	1	.....	3	.....	.....	.....	.....	.....	5
March, .....	1	.....	1	.....	.....	3	.....	.....	2	.....	.....	8
April, .....	.....	2	1	.....	.....	.....	.....	1	.....	.....	.....	7
May, .....	.....	1	.....	1	.....	1	.....	.....	.....	.....	.....	3
June, .....	.....	.....	.....	1	.....	2	.....	.....	2	.....	.....	5
July, .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	1
August, .....	.....	.....	.....	1	.....	1	.....	1	2	.....	2	7
September, .....	.....	.....	1	.....	.....	1	.....	.....	.....	.....	.....	2
October, .....	.....	.....	.....	.....	.....	.....	.....	1	1	.....	.....	2
November, .....	2	.....	.....	.....	.....	10	.....	.....	.....	2	.....	14
December, .....	.....	1	.....	.....	.....	1	.....	.....	.....	.....	.....	2
Totals, .....	5	4	4	5	1	28	1	3	7	2	3	63

TABLE H.—Nationality of Persons Injured Inside and Outside of Mines

	American	English	Welsh	Irish	German	Polish	Hungarian	Italian	Slavonian	Lithuanian	Austrian	Russian	Totals
January, .....	1	.....	1	.....	1	5	.....	.....	.....	.....	1	.....	9
February, .....	4	.....	2	.....	1	.....	.....	.....	1	.....	.....	.....	12
March, .....	1	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	7
April, .....	2	.....	.....	.....	1	.....	.....	.....	.....	2	.....	.....	9
May, .....	3	1	1	.....	.....	.....	.....	.....	.....	.....	.....	1	14
June, .....	3	1	3	3	.....	4	.....	.....	1	.....	.....	1	16
July, .....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	3
August, .....	.....	.....	.....	.....	.....	4	.....	.....	1	.....	1	.....	6
September, .....	1	.....	1	.....	1	6	.....	.....	.....	.....	.....	1	10
October, .....	.....	1	4	.....	.....	2	.....	.....	1	.....	.....	1	9
November, .....	2	.....	.....	.....	.....	3	.....	.....	.....	3	.....	1	11
December, .....	1	.....	3	.....	.....	2	.....	1	1	.....	.....	1	9
Totals, .....	19	1	18	9	4	40	1	1	5	6	2	6	115

TABLE I.—Operators and mines, kind of openings, type and size of fans, size of furnaces, volume of air produced by fan or furnace per minute, number of splits of air currents, number of persons employed inside, and quantity of air produced for each person per minute

Names of Operators and Mines	Kind of opening	Gaseous or non-gaseous	Method of ventilation	Diameter of fan in feet	Width of blades in feet	Depth of blades in feet	Number of revolutions per minute	Water Gauge developed—in inches	Name of fan	Power used	Number of splits of air currents	Number of cubic feet of air per minute entering the mine at inlet	Total quantity of air per minute circulating in all the splits in cubic feet	Number of cubic feet per minute passing out at outlet	Number of persons employed inside	Average number of cubic feet per minute provided for each person
Lehigh and Wilkes-Barre Coal Co.																
Hollenback No. 2.	Slope.	Gaseous.	Fan.	35	11.6	8.9	48	1 1/4	Guibal.	Steam.	10	278,500	251,080	294,540	446	563
Hollenback No. 3.	Slope.	Gaseous.	Fan.	35	11.1	6.9	65	1.8	Guibal.	Steam.						
Hollenback No. 1.	Shaft.	Gaseous.	Fan.	35	11.9	6.9	45	1.4	Guibal.	Steam.						
South Wilkes-Barre No. 1.	Shaft.	Gaseous.	Fan.	35	11.9	6.9	45		Guibal.	Steam.						
South Wilkes-Barre No. 2.	Shaft.	Gaseous.	Fan.	35	11.9	6.9	45		Guibal.	Steam.						
South Wilkes-Barre No. 5.	Shaft.	Gaseous.	Fan.	35	11.9	6.9	45		Guibal.	Steam.	29	340,005	288,285	401,020	521	553
Stanton Abbott.	Slope.	Gaseous.	Fan.	35	11.9	6.9	45		Guibal.	Steam.						
Stanton Empire.	Slope.	Gaseous.	Fan.	24	8	6	65		Guibal.	Steam.	24	336,460	301,200	453,050	545	553
Stanton.	Shaft.	Gaseous.	Fan.	35	11.7	8.4 1/2	45	2	Guibal.	Steam.						
Sugar Notch.	Shaft.	Gaseous.	Fan.	34 1/2	11.9	8.9	45	2	Guibal.	Steam.	11	369,000	309,000	463,000	389	791
Maxwell Hillman.	Slope.	Gaseous.	Fan.	25	8	6	69	1.2	Guibal.	Steam.						
Maxwell Baltimore.	Shaft.	Gaseous.	Fan.	24	8.2	6.3	80	1 1/2	Guibal.	Steam.						
Maxwell Red Ash.	Shaft.	Gaseous.	Fan.	23 1/2	5	6	80	1 1/2	Guibal.	Steam.	15	370,820	354,330	388,320	487	728
			Fan.	35	11.9	8.9	40	1 1/2	Guibal.	Steam.						
Susquehanna Coal Co.																
No. 2 shaft.	Shaft.	Gaseous.	Fan.	25	8	8	60	1 1/2	Guibal.	Steam.	5	116,000	85,500	122,500	303	282
No. 4 shaft.	Shaft.	Gaseous.	Fan.	20	6	6	69	1.6	Guibal.	Steam.						
No. 5 shaft.	Shaft.	Gaseous.	Fan.	20	6	6	50	1.3	Guibal.	Steam.	4	78,000	62,000	86,000	173	405
No. 3 slope.	Slope.	Gaseous.	Fan.	8	2	3	125	4	Sturdevant	Steam.	3	49,000	39,600	51,000	103	379
Ross Vein drift	Drift.	Non-gas.	Fan.	16	4	6	75	2	Guibal.	Steam.						
				20	6	6	103	2	Guibal.	Steam.	4	100,700	48,600	116,400	301	161

\*Emergency fan.

Colliery No. 5, 3-foot Vein drift,	Non-gas.	Fan.	20	6	6	60	1.2	Guibal.	Steam.	4	40,314	16,218	45,511	135	120
{ No. 6 S. shaft,	Gaseous.	Fan.	35	8	8	66	1.5	Guibal.	Steam.						
{ No. 6 N. shaft,	Gaseous.	Fan.	35	8	8	66	1.5	Guibal.	Steam.	4	112,000	89,000	114,000	389	248
Colliery No. 6 { No. 6 slope,	Gaseous.	Fan.	20	8	8	65	1.9	Guibal.	Steam.						
{ No. 6 shaft,	Gaseous.	Fan.	20	8	8	65	1.9	Guibal.	Steam.						
{ No. 6 tunnel,	Gaseous.	Fan.	20	8	8	65	1.9	Guibal.	Steam.						
Colliery No. 7, No. 1 North shaft,	Gaseous.	Fan.	25	8	8	69	1.5	Guibal.	Steam.	10	154,900	122,100	180,900	500	244
Colliery No. 7, No. 1 South shaft,	Gaseous.	Fan.	25	8	8	60	1.5	Guibal.	Steam.	9	190,100	152,600	204,000	308	383
Delaware, Lackawanna and Western Railroad Co.			25	8	8	68	1.6	Guibal.	Steam.						
Bliss, .....	Gaseous.	Fan.	35	9.2	9.10	39	1.5	Guibal.	Steam.	11	141,900	133,200	172,000	630	307
Espy, .....	Gaseous.	Fan.	12	4.3	10	75	1.5	Guibal.	Steam.	3	31,300		34,200		
Auchincloss Nos. 1 and 2, .....	Gaseous.	Fan.	10	2.7	3	135	1.5	Guibal.	Steam.	3	24,600		24,600		
Truesdale Nos. 1 and 2, .....	Gaseous.	Fan.	35	3.6	7.7%	100	1.6	Guibal.	Steam.	9	163,600	163,600	174,900	333	497
Kidney, .....	Gaseous.	Fan.		3.6	7.10%	42	1.8	Guibal.	Steam.						
Truesdale, .....	Non-gas.														
Lehigh Valley Coal Co.															
Dorrance, Hillman and Ealtimore, .....	Gaseous.	Fan.	35	12	10.2	48	1.9	Guibal.	Steam.	19	391,264	241,740	385,053	548	441
Franklin Rock, .....	Gaseous.	Fan.	30	10	8	52	1.9	Guibal.	Steam.	10	128,200	70,550	158,525	270	261
Franklin Long, .....	Gaseous.	Fan.	14	6	5.9	75	.9	Guibal.	Steam.	5	53,475	30,600	63,800	93	329
Franklin Sump, .....	Gaseous.	Fan.	15	6	4	90	.8	Guibal.	Steam.	2	34,900	22,000	40,000	105	210
Franklin, .....	Non-gas.	Fan.	15	4.6	4.6	30		Guibal.	Steam.						
{ 15 4.6 4.6 30															
Alden Coal Co.															
Alden Nos. 1 and 2, .....	Gaseous.	Fan.	15	5	5	62	.8	Guibal.	Steam.	2	47,075	47,075	50,850	14	3,263
Bell, .....	Gaseous.	Fan.	15	5	5	58	.8	Guibal.	Steam.	8	106,000	121,570	121,570	44	2,418
Red Ash Coal Co.			24	8	8	66	1	Guibal.	Steam.	8	154,548	154,548	173,490	174	888
Red Ash No. 2, .....	Non-gas.	Fan.	15	5	3.9	65	1.4	Vulcan.	Steam.	5	40,500	28,550	43,500	162	162
Red Ash No. 2, .....	Non-gas.	Fan.	15	5	3.9	65	1.6	Vulcan.	Steam.	5	58,120	51,120	64,110	129	396
Delaware and Hudson Co.															
Conyneham Hillman, .....	Gaseous.	Fan.	20	5.8	5	90	1.8	Guibal.	Steam.	3	88,470	81,320	89,170	173	470
Conyneham Baltimore, .....	Gaseous.	Fan.	17	5.4	4	73	1.7	Guibal.	Steam.	4	154,920	140,030	160,130	159	881

†A new opening, not yet shipping coal.

TABLE I.—Continued

Names of Operators and Mines	Kind of opening	(Gaseous or non-gaseous)	Method of ventilation	Diameter of fan in feet	Width of blades in feet	Depth of blades in feet	Number of revolutions per minute	Water gauge developed—in inches	Name of fan	Power used	Number of splits of air cur- rents	Number of cubic feet of air per minute entering the mine at inlet	Total quantity of air per min- ute circulating in all the splits in cubic feet	Number of cubic feet per min- ute passing out at outlet	Number of persons employed inside	Average number of cubic feet per minute provided for each person
Warrior Run Mining Co. Warrior Run, .....	Slope, .....	Gaseous.	Fan, ...	20	6.5	5	72	1.5	Gubal, ....	Steam, ...	5	110,000	110,000	115,000	247	445
Pittston Coal Mining Co. Hadleigh, .....	Shaft, .....	Non-gas.	Fan, ...	17	4.5	5.6	80	2	Gubal, ....	Steam, ...	2	110,000	67,000	125,000	135	256
Wilkes-Barre and Scranton Coal and Iron Co. Hillman vein, .....	Shaft, .....	Gaseous.	Fan, ...	30	10	8	30	1.3	Tamaqua, ..	Steam, ...	1	16,000	16,000	19,000	63	251

TABLE 1.—Operators, location of collieries, railroads, etc.

Names of Operators and Collieries	County	Name of General Superintendent	Post Office	Name of Superintendent	Post Office	Railroad to Mine
<b>Lehigh and Wilkes-Barre</b> Hollenback Coal Co. South Wilkes-Barre, Scranton, Sugar Notch, Maxwell, Jersey Washery,	Luzerne	C. F. Huber,	Wilkes-Barre, ..	M. R. Morgans inside sup't.; W. H. Herring outside supt.	Wilkes-Barre, .....	C. R. R. of N. J.
Susquehanna Coal Co. Colliery No. 5, Colliery No. 6, Colliery No. 7, Delaware, Lackawanna and Western Railroad Co. Bliss, Auchincloss, Truesdale,	Luzerne	Robert A. Quin,	Wilkes-Barre, .....	Francis H. Kohlbraker,	Nanticoke, .....	Pennsylvania
Lehigh Valley Coal Co. Dorrance, Franklin, Alden Coal Co.,	Luzerne	S. D. Warriner, S. D. Warriner,	Wilkes-Barre, Wilkes-Barre, .....	F. E. Zerley, F. E. Zerley, .....	Wilkes-Barre, .....	Lehigh Valley Lehigh Valley
Alden Coal Co., Red Ash Coal Co., Conyngham and Hudson Co.,	Luzerne	K. M. Smith, S. V. Trench, .....	Alden Station, Wilkes-Barre, .....	.....	.....	C. R. R. of N. J.
Warrior Run Mining Co., Pittston Coal Mining Co., Hadleigh, Wilkes-Barre and Scranton Coal and Iron Co., Hillman vein,	Luzerne	C. C. Rose, S. D. Warriner, ..	Scranton, Wilkes-Barre, .....	E. R. Pettebone, .....	Scranton, .....	Delaware and Hudson
	Luzerne	M. W. O'Boyle,	Pittston, .....	Thomas R. Jones, .....	Peely, .....	Lehigh Valley
	Luzerne	J. D. Caryl, .....	Wilkes-Barre, .....	Chas. H. Walker, .....	Plains, .....	C. R. R. of N. J.
	Luzerne		Wilkes-Barre, .....	.....	.....	Lehigh Valley



TABLE 2.—Number of tons of coal mined, number of persons employed, number killed and injured, quantity of powder and dynamite used, etc.

Names of Operators and Collieries	County	Number of tons of coal shipped to market	Number of tons used at collieries for steam and heat	Number of tons sold to local trade and used by employes	Total production of coal in tons	Number of days worked, (Totals are averages, not including washeries)	Number of employes	Number of fatal accidents	Number of non-fatal accidents	Number of kegs of powder used	Number of pounds of dynamite used	Number of horses and mules
Lehigh and Wilkes-Barre Coal Co. Hollenback, ..... South Wilkes-Barre, ..... Stanton, ..... Sugar Notch, ..... Maxwell, .....	Luzerne, .....	219,694	26,464	46,891	292,989	243	642	12	5	7,477	29,625	73
	Luzerne, .....	265,491	21,361	62,461	349,313	239	889	8	13	7,646	96,090	110
	Luzerne, .....	228,145	31,354	11,458	270,957	222	825	4	6	10,064	39,139	102
	Luzerne, .....	215,084	21,494	14,445	258,023	192	767	4	4	8,061	7,689	75
	Luzerne, .....	5,6464	26,231	9,624	42,519	248	777	12	12	11,543	28,146	96
Totals, .....		1,448,378	142,182	133,519	1,724,079	2,1	3,709	48	49	41,745	215,899	456
Jersey Washery, .....	Luzerne, .....	51,543			51,543	253	36		2			2
	Totals, .....	1,500,921	142,182	133,519	1,815,622	231	3,766	48	42	41,745	215,899	458
Susquehanna Coal Co. Colliery No. 5, ..... Colliery No. 6, ..... Colliery No. 7, .....	Luzern, .....	355,487	75,788	26,498	457,773	26	1,393	4	14	15,476	39,318	148
	Luzerne, .....	329,664	39,762	3,426	382,852	239	1,144	3	3	13,789	13,040	58
	Luzerne, .....	249,445	67,631	1,877	319,953	231	1,472	4	13	5,823	141,722	174
Totals, .....		1,622,586	181,191	31,788	1,835,465	293	3,679	15	20	34,789	184,040	420
Delaware, Lackawanna and Western Railroad Co. Bliss, ..... Auchincloss, .....	Luzerne, .....	411,841	28,742	1,772	442,355	211	872	1	11	12,523	6,441	56
	Luzerne, .....	122,827	16,600	5,793	144,620	188	441	12	6	3,281	15,392	27
	Totals, .....	534,668	45,342	7,565	587,945	291	1,314	13	17	15,740	22,243	83

Lehigh Valley Coal Co.		Luzerne,.....	219,785	12,024	61,506	263,325	228	729	8	2	8,217	54,575	99
Franklin,.....		Luzerne,.....	558,069	25,746	3,766	257,521	254	644	3	4	8,800	4,356	107
Totals,.....			477,804	37,770	65,272	580,846	241	1,373	11	6	17,047	58,931	206
Alden,.....		Alden Coal Co.	270,485	11,191	4,616	286,292	239	710	2	4	8,905	18,195	34
Red Ash No. 1,*		Red Ash Coal Co.	194,585	1,812	1,111	157,408	221	212	1	3	1,739	3,275	21
Red Ash No. 2,		Luzerne,.....	6,724	10,491	228	17,443	224	276	.....	1	3,264	2,150	31
Totals,.....			201,309	12,303	1,339	214,951	224	488	1	4	3,994	5,425	52
Conyngham,.....		Delaware and Hudson Co.	160,178	22,847	6,142	195,167	216	474	.....	1	4,815	1,379	49
Warrior Run,.....		Warrior Run Mining Co.	170,391	21,600	1,475	193,465	233	411	1	1	6,116	4,000	30
Hadleigh,.....		Pittston Coal Mining Co.	78,261	10,000	425	88,686	183	214	2	5	4,148	2,800	20
Wilkes-Barre and Scranton Coal and Iron Co.		Luzerne,.....	1,006	3,000	3,380	7,386	98	98	.....	3	260	780	8
Grand totals,.....			4,472,609	486,769	249,291	5,208,579	210	12,527	63	115	140,569	513,692	1,415

\*Coal taken to No. 2 breaker.

†Run in connection with No. 2 breaker.

TABLE 2.—Recapitulation

Lehigh and Wilkes-Barre Coal Co.		Luzerne,.....	1,539,921	142,182	133,519	1,815,622	235	3,766	18	42	44,755	215,890	456
Susquehanna Coal Co.,.....		Luzerne,.....	1,032,586	181,164	265,468	1,239,215	233	3,679	13	32	34,789	184,044	420
Delaware, Lackawanna and Western R. R. Co.,.....		Luzerne,.....	534,668	44,712	7,565	586,945	201	1,314	15	17	15,740	58,931	206
Lehigh Valley Coal Co.,.....		Luzerne,.....	37,770	37,770	65,272	580,846	241	1,373	11	6	17,047	58,931	206
Alden Coal Co.,.....		Luzerne,.....	270,485	11,191	4,616	286,292	239	710	2	4	8,905	18,195	34
Red Ash Coal Co.,.....		Luzerne,.....	201,309	12,303	1,339	214,951	224	488	1	4	3,994	5,425	52
Delaware and Hudson Co.,.....		Luzerne,.....	160,178	22,847	6,142	195,167	216	474	.....	1	4,815	1,379	49
Warrior Run Mining Co.,.....		Luzerne,.....	170,391	21,600	1,475	193,465	233	411	1	1	6,116	4,000	30
Pittston Coal Mining Co.,.....		Luzerne,.....	78,261	10,000	425	88,686	183	214	2	5	4,148	2,800	20
Wilkes-Barre and Scranton Coal and Iron Co.,.....		Luzerne,.....	1,006	3,000	3,380	7,386	98	98	.....	3	260	780	8
Totals,.....			4,472,609	486,769	249,291	5,208,579	210	12,527	63	115	140,569	513,692	1,415

TABLE 2.—Continued

Names of Operators	County	Number of Boilers					Locomotives				Number of steam engines of all classes	Total horse power	Number of pumps delivering water to surface	Capacity in gallons per minute	Quantity delivered to surface per minute—gallons	Number of electric dynamos	Number of air compressors
		Cylindrical	Horse power.	Tubular	Horse power	Total horse power	Steam	Air	Electric								
Lehigh and Wilkes-Barre Coal Co., .....	Luzerne,.....	23	1,419	48	9,378	10,798	6	1	.....	260	29,068	12	10,430	6,700	.....	4	
Susquehanna Coal Co., .....	Luzerne,.....	40	1,466	42	16,764	12,164	13	3	.....	63	11,400	13	3,450	4,900	.....	9	
Delaware, Lackawanna and Western Railroad Co., .....	Luzerne,.....																
Lehigh Valley Coal Co., .....	Luzerne,.....			18	2,375	2,375	1	.....	5	31	5,437	6	722	722	.....	1	
Alden Coal Co., .....	Luzerne,.....			19	2,940	2,940	6	.....	.....	21	2,950	2	4,100	2,400	.....	1	
Red Ash Coal Co., .....	Luzerne,.....			7	1,343	1,343	1	.....	.....	9	1,375	2	1,500	1,000	.....	2	
Delaware and Hudson Co., .....	Luzerne,.....	23	1,635		.....	1,635	2	.....	.....	12	971	2	824	824	.....	.....	
Warrior Run Mining Co., .....	Luzerne,.....	11	240	5	1,250	1,250	.....	.....	.....	31	2,162	2	2,000	560	.....	1	
Pittston Coal Mining Co., .....	Luzerne,.....	6	180	8	1,260	1,440	.....	.....	.....	6	1,130	1	1,500	1,000	.....	.....	
Wilkes-Barre and Scranton Coal and Iron Co., .....	Luzerne,.....			7	1,050	1,050	.....	.....	.....	10	300	1	300	300	.....	.....	
Totals, .....		117	4,265	158	39,750	35,015	29	4	5	429	46,351	43	31,526	18,706	.....	3	29

TABLE 3.—Number of each class of employees inside and outside of mines

Names of Operators and Col- lieries	County	Inside										Outside							Grand totals inside and outside			
		Mine foremen	Assistant mine foremen	Fire bosses and assistants	Miners	Miners' laborers	Drivers and runners	Door boys and helpers	Pumpmen	Company men	All other employees	Total inside	Superintendents	Foremen	Blacksmiths and carpenters	Engineers and firemen	Slate pickers (boys)	Slate pickers (men)		Hook-keepers and clerks	All other employees	Total outside
Lehigh and Wilkes-Barre Coal Co.	Luzerne	1	1	8	171	135	59	20	2	50	19	475	....	1	6	21	46	25	3	65	167	642
Hollenback, .....	Luzerne	1	10	200	210	210	59	21	3	123	47	676	....	1	8	29	90	12	4	69	213	889
South Wilkes-Barre, .....	Luzerne	1	7	218	123	81	44	2	99	14	581	....	1	6	37	60	37	3	30	234	825	
Stanton, .....	Luzerne	1	1	5	165	100	42	83	2	80	....	484	....	1	5	13	64	18	3	60	163	597
Sugar Notch, .....	Luzerne	1	1	6	195	135	34	52	4	128	....	557	....	1	7	36	71	20	3	52	220	777
Maxwell, .....	Luzerne	1	1	6	195	135	34	52	4	128	....	557	....	1	7	36	71	20	3	52	220	777
Jersey washery, .....	Luzerne	1	1	6	195	135	34	52	4	128	....	557	....	1	7	36	71	20	3	52	220	777
Totals, .....		6	7	36	949	703	275	175	13	489	80	2,733	....	6	34	141	335	112	15	300	1,033	3,766
Susquehanna Coal Co.	Luzerne	2	2	11	258	270	114	34	8	44	117	860	1	1	32	55	108	27	6	213	443	1,303
Colliery No. 5, .....	Luzerne	4	....	5	234	245	111	1	4	39	92	735	....	1	25	41	97	3	6	196	369	1,104
Colliery No. 6, .....	Luzerne	2	2	11	265	275	96	58	10	65	114	898	....	1	31	45	71	22	6	198	374	1,272
Colliery No. 7, .....	Luzerne	8	4	27	777	790	321	93	22	148	323	2,493	1	3	58	141	276	52	18	607	1,186	3,679
Totals, .....		16	8	54	1,534	1,575	642	185	34	236	554	4,086	2	3	91	341	654	101	29	817	2,623	6,709
Delaware, Lackawanna and West- ern R. R. Co.	Luzerne	1	1	5	202	222	52	28	2	60	34	607	....	1	6	13	123	8	3	112	266	873
Bliss, .....	Luzerne	1	....	3	103	134	27	4	....	56	5	333	....	1	5	11	43	....	1	47	108	441
Auchincloss, .....	Luzerne	1	....	3	103	134	27	4	....	56	5	333	....	1	5	11	43	....	1	47	108	441
Totals, .....		3	1	8	305	356	79	32	2	116	39	940	....	2	11	24	166	8	4	159	374	1,314

TABLE 3.—Continued

Names of Operators and Collieries	County	Inside										Outside										Grand totals inside and outside
		Mine foremen	Assistant mine foremen	Pit bosses and assistants	Miners	Miners' laborers	Drivers and runners	Door boys and helpers	Pumpmen	Company men	All other employes	Total inside	Superintendents	Foremen	Blacksmiths and carpenters	Engineers and firemen	Slate pickers (boys)	Slate pickers (men)	Book-keepers and clerks	All other employes	Total outside	
Lehigh Valley Coal Co.	Luzerne	2	1	7	164	128	71	18	4	34	120	548	1	14	14	14	34	14	3	101	181	729
Dormore,	Luzerne	1	1	1	180	120	62	17	4	62	17	468	1	19	20	20	33	11	3	89	176	644
Franklin,	Luzerne	1	1	1	180	120	62	17	4	62	17	468	1	19	20	20	33	11	3	89	176	644
Totals,		3	1	11	244	248	133	35	8	96	137	1,016	2	33	34	34	67	25	6	190	357	1,373
Alden Coal Co.	Luzerne	1	1	5	181	139	63	31	2	47	.....	510	1	1	11	24	46	36	6	75	200	710
Red Ash Coal Co.	Luzerne	1	1	1	52	57	19	3	3	26	.....	362	.....	.....	5	.....	.....	.....	.....	45	50	212
Red Ash No. 1,	Luzerne	1	1	1	41	44	20	3	.....	19	.....	129	1	1	11	10	17	35	2	70	147	276
Red Ash No. 2,	Luzerne	1	1	1	53	101	29	6	3	45	.....	201	1	1	11	15	17	35	2	115	197	488
Totals,		2	2	3	176	242	109	29	6	90	.....	742	2	2	22	20	32	70	12	125	344	1,230
Delaware and Hudson Co.	Luzerne	1	1	4	112	90	35	16	3	49	22	333	.....	1	6	12	45	26	1	50	141	474
Conyngham,	Luzerne	1	1	2	80	70	15	23	4	11	40	247	1	1	10	16	20	8	3	105	164	411
Warrior Run Mining Co.	Luzerne	1	1	2	80	70	15	23	4	11	40	247	1	1	10	16	20	8	3	105	164	411
Pittston Coal Mining Co.	Luzerne	1	1	1	70	58	8	6	1	10	.....	135	1	1	5	10	24	4	1	33	79	214
Huebisch,	Luzerne	1	1	1	70	58	8	6	1	10	.....	135	1	1	5	10	24	4	1	33	79	214



Wilkes-Barre and Scranton Coal  
and Iron Co.

Hollman vein, .....	1	.....	2	19	19	5	2	2	15	.....	65	1	1	2	5	.....	8	1	15	33	98
Grand totals, .....	26	18	96	2,910	2,584	973	429	60	1,026	641	8,763	6	19	211	422	996	314	57	1,739	3,764	12,527

TABLE 3.—Recapitulation

Lehigh and Wilkes-Barre Coal Co.,	6	7	36	949	703	275	175	13	489	80	2,733	.....	6	34	141	335	112	15	390	1,033	3,766
Susquehanna Coal Co.,	8	4	27	757	790	321	93	22	148	323	2,493	1	3	88	141	276	52	18	607	1,186	3,679
Delaware, Lackawanna and West-																					
ern Railroad Company, .....																					
Lehigh Valley Coal Co., .....	2	1	8	305	356	79	32	2	116	39	940	.....	2	11	24	166	8	4	159	374	1,314
Alden Coal Co., .....	3	1	11	304	288	133	35	8	96	137	1,016	.....	2	33	34	67	25	6	190	357	1,373
Lehigh Coal Co., .....	1	1	5	781	169	183	41	2	47	.....	510	1	1	11	24	46	36	6	75	290	710
Red Ash Coal Co., .....	2	2	4	53	101	39	16	3	46	.....	251	1	1	11	15	17	35	2	115	197	488
Delaware and Hudson Co., .....	1	1	4	112	96	35	16	3	49	22	333	.....	1	6	12	45	26	1	50	141	474
Warrior Run Mining Co., .....	1	1	2	80	70	15	23	4	11	40	275	1	1	10	16	20	8	3	105	164	411
Pittston Coal Mining Co., .....	1	1	1	70	38	8	6	1	10	.....	135	1	1	5	10	24	4	1	33	79	214
Wilkes-Barre and Scranton Coal																					
and Iron Co., .....	1	.....	2	19	19	5	2	2	15	.....	65	1	1	2	5	.....	8	1	15	33	98
Totals, .....	26	18	96	2,910	2,584	973	429	60	1,026	641	8,763	6	19	211	422	996	314	57	1,739	3,764	12,527

TABLE 3.—Continued

Name of Operators	County	Average Number of Days Worked in Breaker												Total
		January	February	March	April	May	June	July	August	September	October	November	December	
Lehigh and Wilkes-Barre Coal Co., .....	Luzerne,...	22	22	18	15	22	26	19	16	17	16	16	19	231
Susquehanna Coal Co., .....	Luzerne,...	15	16	12	24	22	25	20	22	17	20	21	19	233
Delaware, Lackawanna and Western R. R. Co., .....	Luzerne,...	16	14	17	21	20	21	17	15	12	20	12	16	201
Lehigh Valley Coal Co., .....	Luzerne,...	26	16	20	21	22	23	20	20	14	33	21	23	241
Alden Coal Co., .....	Luzerne,...	20	17	24	13	19	21	18	22	20	21	21	23	239
Red Ash Coal Co., .....	Luzerne,...	9	20	22	23	24	25	19	16	16	17	17	16	224
Delaware and Hudson Co., .....	Luzerne,...	18	20	19	19	18	29	17	19	18	14	17	17	226
Warrior Run Mining Co., .....	Luzerne,...	19	19	21	21	21	21	19	15	13	22	19	21	233
Pittston Coal Mining Co., .....	Luzerne,...	12	13	18	15	13	18	14	16	18	14	16	16	183
Wilkes-Barre and Scranton Coal and Iron Co., .....	Luzerne,...	.....	.....	.....	.....	.....	.....	.....	.....	24	25	24	25	98
General averages, .....	.....	15	16	17	18	18	20	16	16	17	19	18	20	210

TABLE 4.—Fatal accidents inside and outside of mines

Date of accident	Name of Person	Nationality	Occupation	Age	Married or single			Number of widows	Number of orphans	Name of Mine	County	Nature and Cause of Accident in Brief
Jan.	5	Constance Swolowski...	Polish...	25	S.	...	...	...	...	Auchincloss, .....	Luzerne...	Burned by an explosion of gas. Died January 4.
	11	Michael Walsh, .....	Irish, .....	41	M	1	3	...	...	Franklin, .....	Luzerne...	Instantly killed by an empty car running over him on the slope.
	19	Charles Harten, .....	American, .....	18	S.	...	...	...	...	Stanton, .....	Luzerne...	Skull fractured; caught between railroad car and breaker post. Outside.
	23	John Brunetta, .....	Italian, ....	24	M	1	...	...	...	No. 6 slope, No. 6 colliery, Franklin, .....	Luzerne...	Instantly killed by a loaded car jumping the track and squeezing him against the rib.
	27	Peter Crook, .....	Polish, ....	20	S.	...	...	...	...	Dorrance, .....	Luzerne...	Smothered to death in the barley coal pocket in washery. Outside.
	28	George Laphey, .....	Polish, ....	40	M	1	2	...	...	Dorrance, .....	Luzerne...	Instantly killed by a piece of coal falling on his head.
	30	William T. Thomas, .....	Welsh, ....	23	S.	...	...	...	...	Hollenback, .....	Luzerne...	Instantly killed by being squeezed between track and the rib.
Feb.	11	Ellis E. Williams, .....	American, .....	35	M	1	...	...	...	So. Wilkes-Barre, .....	Luzerne...	Instantly killed by a fall of top rock.
	13	Joseph Kachinski, .....	Polish, ....	44	M	1	4	...	...	Bliss, .....	Luzerne...	Instantly killed by a fall of top rock.
	15	Joseph Lewindusky, .....	Polish, ....	21	S.	...	...	...	...	Warrior Run, .....	Luzerne...	Instantly killed by a fall of top rock.
	16	Martin Bena, .....	Polish, ....	30	S.	...	...	...	...	Dorrance, .....	Luzerne...	Fatally injured by a piece of coal falling from top bench Baltimore vein, and squeezing him against an empty car.
March	20	Patrick Cooney, .....	Irish, .....	45	M	1	4	...	...	Hadleigh, .....	Luzerne...	Instantly killed by a fall of top rock.
	5	Thomas S. Thomas, .....	American, .....	47	M	1	2	...	...	So. Wilkes-Barre, .....	Luzerne...	Instantly killed by a fall of top coal.
	11	John Chyba, .....	Polish, ....	48	M	1	...	...	...	No. 7 colliery, .....	Luzerne...	Instantly killed by a fall of clay. Outside.
	16	John H. Williams, .....	Welsh, ....	45	M	1	2	...	...	So. Wilkes-Barre, .....	Luzerne...	Fatally injured by a small piece of coal falling down No. 3 shaft and striking him on the head.
	26	William Kanylofski, .....	Lithuanian, .....	32	S.	...	...	...	...	Dorrance, .....	Luzerne...	Instantly killed by being hoisted up against the sheave wheel. Outside.
	26	Peter Kavalaski, .....	Lithuanian, .....	25	S.	...	...	...	...	Dorrance, .....	Luzerne...	Instantly killed by being hoisted up against the sheave wheel. Outside.
	28	John Pepan, .....	Polish, ....	23	S.	...	...	...	...	Dorrance, .....	Luzerne...	Instantly killed by being hoisted up against the sheave wheel. Outside.
	28	Bert Van Horn, .....	German, ....	32	M	1	3	...	...	Dorrance, .....	Luzerne...	Instantly killed by being hoisted up against the sheave wheel. Outside.
	28	Anthony Nogic, .....	Polish, ....	26	M	1	5	...	...	No. 2 shaft, No. 5 colliery, .....	Luzerne...	Fatally burned by an explosion of powder. Died April 8.
April	13	Shandon Fisher, .....	Slavonian, .....	53	M	1	2	...	...	No. 5 colliery, ....	Luzerne...	Fatally injured by being run over by a trip of loaded mine cars. Outside.

TABLE 4.—Continued

Date of accident	Name of Person	Nationality	Occupation				Name of Mine	County	Nature and cause of Accident in Brief
			Age	Married or single	Number of widows	Number of orphans			
April 13	George Vishniefski, ..	Polish, .....	Laborer, .....	29 S. ....	.....	.....	No. 1 South shaft, Luzerne,....	Luzerne,....	Fatally injured by a fall of rock.
15	Thomas Gould, ..	English, .....	Driver, .....	17 S. ....	.....	.....	No. 7 colliery, Auncloss, .....	Luzerne,....	Fatally injured by being struck by a runaway car on a counter.
15	Peter Siskits, .....	Polish, .....	Miner, .....	22 M 1 ....	.....	.....	So. Wilkes-Barre, Luzerne,....	Luzerne,....	Instantly killed by a fall of rock.
18	Stanley Salletski, ..	Polish, .....	Laborer, .....	25 M 1 1 ....	.....	.....	Dorrance, .....	Luzerne,....	Instantly killed by a fall of rock.
21	William Morgan, ..	Welsh, .....	Shaft footman, ..	31 M 1 ....	.....	.....	Maxwell, .....	Luzerne,....	Instantly killed. Crushed under a loaded car in the cage pit.
27	Lawrence Winter, ..	English, .....	Shaft sinker or rock miner, .....	38 S. ....	.....	.....	So. Wilkes-Barre, Luzerne,....	Luzerne,....	Fatally injured by being struck by a drill that fell down the shaft.
May 17	James Conway, .....	Irish, .....	Footman, .....	52 M. 1 6	.....	.....	Stanton, .....	Luzerne,....	Instantly killed by being struck by a piece of plank falling down the shaft.
20	Edwin Thomas, .....	English, .....	Miner, .....	52 M. 1 7	.....	.....	Alden, .....	Luzerne,....	Fatally injured by a fall of top coal.
31	Mike Onick, .....	Polish, .....	Machine loader, ..	33 M 1 2	.....	.....	Truesdale, .....	Luzerne,....	Fatally injured by falling down the shaft.
June 6	Frank Huck, .....	Polish, .....	Laborer, .....	29 S. ....	.....	.....	Alden, .....	Luzerne,....	Fatally injured by a premature blast.
9	Joseph Michalowski, ..	Lithuanian, ..	Laborer, .....	25 S. ....	.....	.....	No. 1 North shaft No. 7 colliery, Luzerne,....	Luzerne,....	Fatally injured by a piece of rock falling on him. Died June 27.
20	Michael Kotilla, .....	Lithuanian, ..	Laborer, .....	25 S. ....	.....	.....	Maxwell, .....	Luzerne,....	Fatally burned by an explosion of gas. Died June 27.
21	John Zucofski, .....	Polish, .....	Miner, .....	41 M 1 1	.....	.....	No. 2 shaft, No. 5 colliery, Luzerne,....	Luzerne,....	Fatally injured by a fall of rock. Died July 1.
24	Patrick Munley, .....	Irish, .....	Slate picker, ..	15 S. ....	.....	.....	Hadleigh, .....	Luzerne,....	Instantly killed by being caught on shaft of conveyor line. Outside.
July 9	Watick Pappaka, .....	Russian, .....	Miner, .....	39 M 1 6	.....	.....	Stanton, .....	Luzerne,....	Instantly killed by a fall of coal.
11	Andrew Smedda, .....	Slavonian, ..	Laborer, .....	38 M 1 1	.....	.....	No. 1 North shaft, No. 7 colliery, Luzerne,....	Luzerne,....	Fatally injured by a fall of rock.
15	John Hendershot, .....	Russian, .....	Laborer, .....	50 M 1 ....	.....	.....	So. Wilkes-Barre, Luzerne,....	Luzerne,....	Instantly killed by a drill falling down the shaft on him.
17	Leon Struzeski, .....	Polish, .....	Laborer, .....	42 M. 1 4	.....	.....	No. 1 South shaft, No. 7 colliery, Luzerne,....	Luzerne,....	Instantly killed by a fall of top rock.
24	Frank Belicky, .....	Russian, .....	Mason, .....	43 M. 1 ....	.....	.....	Dorrance, .....	Luzerne,....	Fatally injured by a fall of top rock.
30	Simon Tregalis, .....	Lithuanian, ..	Miner, .....	24 M 1 2	.....	.....	Sugar Notch, .....	Luzerne,....	Fatally injured by a premature blast.
30	Edward Laning, .....	Irish, .....	Miner, .....	54 M 1 ....	.....	.....	Holmback, .....	Luzerne,....	Fatally injured by a fall of top coal.
30	Thomas Raymon, .....	Lithuanian, ..	Laborer, .....	27 S. ....	.....	.....	No. 5 colliery, Luzerne,....	Luzerne,....	Instantly killed by a fall of top rock.

Sept.	21	Jacob Continski, .....	Polish, .....	Miner, .....	45	S	.....	Maxwell, .....	Luzerne, .....	Instantly killed by a fall of coal.
	29	Wm. J. P. Williams, ..	Welsh, .....	Miner, .....	53	M	1	So. Wilkes-Barre, ..	Luzerne, .....	Instantly killed by a fall of rock.
Oct.	15	Wm. Lingimms, .....	Lithuanian, .....	Laborer, .....	53	M	1	So. Wilkes-Barre, ..	Luzerne, .....	Instantly killed by a fall of rock.
	16	Michael Filicavage, ..	Slovakian, .....	Laborer, .....	26	M	1	Red Ash No. 1, ..	Luzerne, .....	Instantly killed by a fall of top coal.
	18	Michael Filicavage, ..	Polish, .....	Laborer, .....	26	M	1	Auchincloss, .....	Luzerne, .....	
Nov.	2	John Plisnick, .....	Polish, .....	Laborer, .....	35	M	1	Auchincloss, .....	Luzerne, .....	
	2	William Ashton, Jr., ..	American, .....	Laborer, .....	32	M	1	Auchincloss, .....	Luzerne, .....	These ten men were instantly killed while being lowered down the shaft on the carriage. The engine lost control of the engine and the carriage struck the fans at the landing of Baltimore vein with such force as to smash the bottom, dropping the men down 450 feet into 200 feet of water at the bottom.
	3	John Kenyon, .....	Polish, .....	Laborer, .....	28	M	1	Auchincloss, .....	Luzerne, .....	
	3	John Novick, .....	Polish, .....	Miner, .....	27	M	1	Auchincloss, .....	Luzerne, .....	
	2	John Kempa, .....	Polish, .....	Laborer, .....	20	S	.....	Auchincloss, .....	Luzerne, .....	
	2	Frank Selick, .....	Polish, .....	Miner, .....	26	M	1	Auchincloss, .....	Luzerne, .....	
	2	Joe Caushen, .....	Polish, .....	Miner, .....	28	M	1	Auchincloss, .....	Luzerne, .....	
	2	John Yellowkotski, ..	Polish, .....	Laborer, .....	31	M	1	Auchincloss, .....	Luzerne, .....	
	2	John Ignatowich, .....	Polish, .....	Miner, .....	28	M	1	Auchincloss, .....	Luzerne, .....	
	3	George Mroveski, .....	Austrian, .....	Laborer, .....	29	M	1	Colliery No. 6, .....	Luzerne, .....	
	10	Mike Lowalski, .....	Austrian, .....	Laborer, .....	32	M	1	Truesdale, .....	Luzerne, .....	
	14	James Heaney, .....	American, .....	Door boy, .....	17	S	.....	Stanton, .....	Luzerne, .....	Instantly killed by falling down the shaft. Instantly killed between ribs and a loaded car which jumped the track.
	29	William Shipcofski, ..	Polish, .....	Slate picker, .....	16	S	.....	Colliery No. 7, .....	Luzerne, .....	Fatally injured by falling from a girder to the floor outside.
Dec.	22	Robert D. Marr, .....	English, .....	Driver, .....	15	S	.....	Colliery No. 7, .....	Luzerne, .....	Fatally injured by being thrown off an empty car which jumped the track. Outside.
	28	Stanley Mulensky, ..	Polish, .....	Laborer, .....	21	S	.....	Franklin, .....	Luzerne, .....	Instantly killed by being struck by a small piece of coal from a blast.



TABLE 5.—Non-fatal accidents inside and outside of mines

Date of accident	Name of Person	Nationality	Occupation	Age	Married or single	Name of Mine	County	Nature and Cause of Accident in Brief
Jan.	1 John S. Hopkins, .....	American, ..	Miner, .....	44	S.	Alben, .....	Luzerne, ..	Arm broken by collar falling on him.
	2 Joseph Swakoski, .....	Polish, .....	Laborer, .....	27	S.	Auchincloss, .....	Luzerne, ..	Seriously burned by an explosion of gas.
	12 Theodore Dominski, .....	Polish, .....	Laborer, .....	23	S.	Bliss, .....	Luzerne, ..	Bone broken in leg by a fall of rock.
	13 Thomas David, .....	Welsh, .....	Laborer, .....	49	M.	No. 6 colliery, .....	Luzerne, ..	Thigh broken by being thrown by a prop timber. Outside.
	18 Andrew Duracco, .....	Austrian, .....	Laborer, .....	33	M.	Maxwell, .....	Luzerne, ..	Ankle fractured by a piece of bony coal sliding down roadway.
	21 Joseph Plethukwicz, ..	Polish, .....	Miner, .....	38	M.	Stanton, .....	Luzerne, ..	Leg broken by a piece of coal striking it.
	22 Charles Kapka, .....	German, .....	Runner, .....	18	S.	No. 7 colliery, .....	Luzerne, ..	Foot crushed by being run over by a loaded car. Outside.
	26 Joseph Smith, .....	Polish, .....	Plate man, .....	29	M.	Red Ash No. 2, .....	Luzerne, ..	Leg broken by being caught between car and rail. Outside.
	26 Felix Reafski, .....	Polish, .....	Co. laborer, .....	47	M.	No. 2 shaft, No. 5 colliery, .....	Luzerne, ..	Foot broken by a piece of rock falling upon it.
	5 Patrick McCarty, .....	Irish, .....	Miner, .....	54	M.	Conyngnam, .....	Luzerne, ..	Seriously burned on hands and face by an explosion of powder.
Feb.	6 W. H. Shelhamer, .....	American, ..	Engineer, .....	30	M.	No. 1 shaft, No. 7 colliery, .....	Luzerne, ..	Two ribs broken by a block falling on him.
	6 Evan M. Evans, .....	Welsh, .....	Miner, .....	40	M.	Maxwell, .....	Luzerne, ..	Squeezed about the chest by being caught between an empty car and brattice.
	9 Maurice Williams, .....	Welsh, .....	Miner, .....	48	M.	South Wilkes-Barre, ..	Luzerne, ..	Leg fractured by a piece of coal falling on it.
	12 Patrick Fisher, .....	Irish, .....	Machine man, .....	40	M.	South Wilkes-Barre, ..	Luzerne, ..	Leg fractured and body bruised by a fall of rock. Leg amputated.
	12 Nelson Odden, .....	American, ..	Laborer, .....	35	M.	South Wilkes-Barre, ..	Luzerne, ..	Leg fractured and body bruised by a fall of rock.
	12 Charles Magheck, .....	Polish, .....	Laborer, .....	29	S.	Maxwell, .....	Luzerne, ..	Leg fractured by a piece of rock falling on it.
	16 Charles Chiesler, .....	German, .....	Carpenter, .....	29	M.	No. 2 shaft, No. 5 colliery, .....	Luzerne, ..	Two fingers cut off by being caught in the handle of a ball pump.
	16 Charles Duskaysis, ..	Polish, .....	Laborer, .....	19	S.	No. 6 North shaft, No. 6 colliery, .....	Luzerne, ..	Leg fractured by a piece of coal flying from a blast.
	18 Harry Jacobs, .....	American, ..	Driver, .....	18	S.	Franklin, .....	Luzerne, ..	Arm crushed by being run over by a loaded car. Arm amputated.

24	March	Frank Stinkavage, ....	Slavonian,...	Miner, .....	26	S. Dorrance, .....	Luzerne, ..	Seriously injured about the face by a premature blast.
29		Edward McAvoy, .....	American, ..	Co. laborer, .....	28	S. Stanton, .....	Luzerne, ..	Collar bone broken and shoulder bruised by being squeezed between car and rib.
7		Thomas Hocken, .....	English,....	Co. laborer, .....	28	S. Bliss, .....	Luzerne, ..	Three ribs fractured by being struck with a steam pipe.
17		Joseph Lasso, .....	Hungarian,...	Laborer, .....	41	M. Red Ash No. 1, .....	Luzerne, ..	Big toe cut off by a piece of slate falling upon it.
18		Albert Conley, .....	American, ..	Laborer, .....	20	S. Jersey Annex, .....	Luzerne, ..	Small bone in ankle fractured between engine car and outside.
19		Anthony Groloski, ....	Polish, .....	Miner, .....	37	M. Bliss, .....	Luzerne, ..	Collar bone fractured by a piece of coal flying from a blast.
21		James Barker, .....	Irish, .....	Miner, .....	29	M. South Wilkes-Barre, ..	Luzerne, ..	Seriously injured on face and body by a premature blast.
21		John Smith, .....	Lithuanian, ..	Laborer, .....	33	M. South Wilkes-Barre, ..	Luzerne, ..	Seriously injured on face and body by a premature blast.
26		Albert Champulla, ....	Polish, .....	Miner, .....	40	M. Colliery No. 7, No. 1 North shaft, .....	Luzerne, ..	Bone in the heel of the foot broken by being struck by a large piece of facing rock.
13	April	Richard T. Williams,...	Welsh, .....	Mason, .....	50	M. Auchincloss, .....	Luzerne, ..	Small bone in leg broken by a piece of rock sliding on him.
14		John Crockenfeld, ....	American, ..	Shovel engineer, ..	31	M. Jersey Annex, ..	Luzerne, ..	Leg crushed; caught in the machinery of the steam shovel. Outside.
21		Matthew Labert, .....	Polish, .....	Laborer, .....	17	S. Hadleigh, .....	Luzerne, ..	Leg broken by a fall of rock.
22		Frank Backonis, .....	Lithuanian, ..	Laborer, .....	20	S. South Wilkes-Barre, ..	Luzerne, ..	Head and body bruised by a fall of rock.
25		Peter Kasakofski, ....	Polish, .....	Miner, .....	23	M. Maxwell, .....	Luzerne, ..	Leg fractured by a piece of coal flying from a blast.
25		Julius Reshki, .....	American, ..	Slate picker, .....	15	S. No. 5 colliery, .....	Luzerne, ..	Leg broken; being caught in the scraper line. Outside.
28		August Grabofski, ....	German, .....	Carpenter, .....	40	M. No. 7 colliery, .....	Luzerne, ..	Back severely injured by a fall, caused by a plank breaking. Outside.
29		Andrew Koons, .....	Polish, .....	Miner, .....	25	S. Hollenback, .....	Luzerne, ..	Arm broken and scalp lacerated by a premature blast.
30		John Wanto, .....	Lithuanian, ..	Laborer, .....	21	S. Maxwell, .....	Luzerne, ..	Finger cut off while placing a lump of coal on top of a car.
3	May	Edward Shemanski, ...	Polish, .....	Runner, .....	18	S. No. 7 colliery, .....	Luzerne, ..	Leg broken and back injured by being thrown from a mule and dragged some distance. Outside.
4		Evan J. Williams, ...	American, ..	Timberman, .....	28	M. South Wilkes-Barre, ..	Luzerne, ..	Arm fractured; kicked by a mule.
10		Felix Conniff, .....	Polish, .....	Co. laborer, .....	19	S. Maxwell, .....	Luzerne, ..	Leg fractured; squeezed between mule and door post.
10		North Cutler, .....	American, ..	Brakeman, .....	20	S. No. 7 colliery, .....	Luzerne, ..	Leg bruised; caught between cars. Outside.
16		Frank Bowak, .....	Polish, .....	Miner, .....	35	M. Hadleigh, .....	Luzerne, ..	Leg broken; struck by a piece of coal from a blast.
17		Anthony Flannery, ...	American, ..	Shaft footman, ...	29	M. Stanton, .....	Luzerne, ..	Leg fractured and body bruised; struck by a piece of plank which fell down the shaft.
17		John Skourtzski, .....	Polish, .....	Miner, .....	36	M. No. 7 colliery, .....	Luzerne, ..	Compound fracture of arm; piece of rock fell upon it.
17		Michael Kirick, .....	Irish, .....	Timberman, .....	31	S. Dorrance, .....	Luzerne, ..	Collar bone fractured; struck by a prop.
19		Ignatz Jeneda, .....	Russian, ...	Laborer, .....	25	S. Bliss, .....	Luzerne, ..	Bruised on head and body by a piece of bony coal falling on him.
23		Anthony Frayne, .....	Irish, .....	Miner, .....	42	M. Maxwell, .....	Luzerne, ..	Collar bone fractured by a prop falling on him.

TABLE 5.—Continued

Date of accident	Name of Person	Nationality	Occupation	Age	Married or single	Name of Mine	County	Nature and Cause of Accident in Brief
May	26 Neal May, .....	Irish, .....	Miner, .....	48	M.	Sugar Notch, .....	Luzerne, ..	Foot badly cut by being caught between two cars that jumped the track.
	28 John Kitchen, .....	English, ..	Miner, .....	44	M.	Hillman vein, .....	Luzerne, ..	Slightly injured by an explosion of gas.
	29 Thomas J. Williams, ..	Welsh, .....	Timberman, ..	35	M.	Hillman vein, .....	Luzerne, ..	Slightly injured by an explosion of gas.
	30 John Glatki, .....	Polish, .....	Driver, .....	20	M.	No. 7 colliery, .....	Luzerne, ..	Leg broken by a mule falling on him.
June	3 Joseph Hocken, .....	English, ....	Co. laborer, ..	27	M.	Bliss, .....	Luzerne, ..	Bruised about the body by falling a distance of 50 feet down a shaft.
	3 Felix Pieten, .....	Polish, .....	Laborer, .....	32	M.	Maxwell, .....	Luzerne, ..	Shoulder injured by a prop falling on him.
	3 Andrew Martes, .....	Slavonian, ..	Laborer, .....	19	S.	Maxwell, .....	Luzerne, ..	Thumb cut off by a piece of bony coal falling on it.
	6 George Klukosvan, ....	Polish, .....	Laborer, .....	50	M.	No. 6 colliery, .....	Luzerne, ..	Arm broken; kicked by mule.
	6 August Matonis, ....	Russian, ....	Laborer, .....	24	M.	Hollenback, .....	Luzerne, ..	Cut on arm and head by some bony coal falling on him.
	8 John R. Williams, .....	Welsh, .....	Miner, .....	64	M.	Hollenback, .....	Luzerne, ..	Shoulder broken and cut on arm and head by a premature blast.
	8 William McAndrews, ..	Irish, .....	Driver, .....	25	S.	No. 7 colliery, .....	Luzerne, ..	Knee and ankle bruised by a fall of rock.
	11 Thomas Price, .....	Welsh, .....	Miner, .....	55	M.	Red Ash No. 1, .....	Luzerne, ..	Back and sides injured by a fall of coal.
	14 Richard McElligot, ...	Irish, .....	Driver, .....	29	S.	Maxwell, .....	Luzerne, ..	Both collar bones fractured and bruised about the body by being run over by a loaded car.
	14 William Gallagher, ....	American, ..	Patcher, .....	18	S.	South Wilkes-Barre, ..	Luzerne, ..	Arm severely bruised by a piece of rock falling on it.
	15 John Stashak, .....	Polish, .....	Laborer, .....	22	S.	Alden, .....	Luzerne, ..	Leg broken by a fall of rock.
	15 Thomas P. Jones, .....	Welsh, .....	Driver, .....	18	S.	No. 7 colliery, .....	Luzerne, ..	Finger crushed; run over by car.
	23 James Coombs, .....	American, ..	Door boy, .....	16	S.	No. 5 colliery, .....	Luzerne, ..	Seriously injured by being shot while some men were shooting timbers out.
	26 Anthony McManaman, ..	Irish, .....	Fireman, .....	22	S.	Hadleigh, .....	Luzerne, ..	Leg broken by falling into a cave hole in an abandoned tunnel.
	29 Peter Schmitravitz, ...	Polish, .....	Miner, .....	28	S.	Warrior Run, .....	Luzerne, ..	Burned about the head and body by an explosion of gas.
	30 Arthur Thomas, .....	American, ..	Spragger, .....	17	S.	Hollenback, .....	Luzerne, ..	Knee severely bruised by being squeezed between two cars.
July	8 Anthony Struensk, ....	Polish, .....	Laborer, .....	19	S.	Sugar Notch, .....	Luzerne, ..	Two fingers cut off; a piece of coal fell on his hand.

18	Andrew Berlinski, .....	Polish, .....	Co. laborer, .....	29	M. Bliss, .....	Luzerne, ..	Arm fractured; caught between car and door.
22	Albert Johnson, .....	American, ..	Laborer, .....	22	S. South Wilkes-Barre, ..	Luzerne, ..	Leg broken; caught by a belt on air compressor. Outside.
Aug. 1	Benjamin Cinia, .....	Austrian, ..	Laborer, .....	22	S. Franklin, .....	Luzerne, ..	Leg broken by a piece of rock falling on him.
1	Albert Foter, .....	Polish, .....	Miner, .....	44	M. Bliss, .....	Luzerne, ..	Leg broken by a piece of rock falling on him.
3	Joseph Bandurski, .....	Polish, .....	Driver, .....	22	S. No. 7 colliery, .....	Luzerne, ..	Arm broken; squeezed between a car and a mule.
17	Michael Bicos, .....	Polish, .....	Miner, .....	40	M. No. 5 colliery, .....	Luzerne, ..	Leg broken by a fall of rock.
24	Joseph Sotofski, .....	Polish, .....	Miner, .....	38	S. Sugar Notch, .....	Luzerne, ..	Severely burned by an explosion of gas.
27	Joseph Mollick, .....	Slavonian, ..	Door boy, .....	16	S. Franklin, .....	Luzerne, ..	Face crushed by being run over by a mine car.
Sept. 10	John Voucofski, .....	Polish, .....	Miner, .....	35	S. Auchincloss, .....	Luzerne, ..	Bruised about the hips and back by a fall of rock.
12	Adam Yapsugar, .....	Polish, .....	Laborer, .....	51	M. Stanton, .....	Luzerne, ..	Back and sides bruised and two ribs broken by a fall of rock.
12	Martin Bednarik, .....	German, .....	Miner, .....	38	M. No. 7 colliery, .....	Luzerne, ..	Back cut and hips bruised by a fall of rock.
19	Jacob Novolski, .....	Polish, .....	Door boy, .....	16	S. No. 5 colliery, .....	Luzerne, ..	Leg crushed; run over by a loaded mine car. Outside.
19	John Komersofski, .....	Polish, .....	Footman, .....	21	S. Bliss, .....	Luzerne, ..	Leg and back injured; squeezed between two loaded cars.
20	Stiney Kilritus, .....	Russian, .....	Laborer, .....	20	S. Hollenback, .....	Luzerne, ..	Severely burned on hands and face by an explosion of powder.
20	William S. Lewis, .....	American, ..	Laborer, .....	21	S. No. 7 colliery, .....	Luzerne, ..	Leg broken; caught between cars. Outside.
20	William Beynon, .....	Welsh, .....	Door boy, .....	17	S. Bliss, .....	Luzerne, ..	Leg severely bruised; squeezed between two loaded cars.
21	Frank Sitts, .....	Polish, .....	Miner, .....	27	S. South Wilkes-Barre, ..	Luzerne, ..	Severely injured by a fall of rock while putting up a set of timbers.
21	Andrew Yardish, .....	Polish, .....	Laborer, .....	26	S. South Wilkes-Barre, ..	Luzerne, ..	Severely injured by a fall of rock while putting up a set of timbers.
Oct. 1	John Griffith, .....	Welsh, .....	Miner, .....	48	M. Maxwell, .....	Luzerne, ..	Scalp wound and back bruised by a fall of rock.
8	Llewellyn Ellsworth, ..	Welsh, .....	Laborer, .....	21	S. No. 5 colliery, .....	Luzerne, ..	Arm broken and foot crushed by a fall of rock.
8	Thomas Powell, .....	Welsh, .....	Miner, .....	45	M. No. 5 colliery, .....	Luzerne, ..	Leg badly squeezed by a fall of rock.
8	Mike Briski, .....	Polish, .....	Laborer, .....	46	M. No. 5 colliery, .....	Luzerne, ..	Face cut and leg bruised by a fall of rock.
13	Andrew Harcharik, ..	Polish, .....	Miner, .....	37	M. No. 5 colliery, .....	Luzerne, ..	Seriously injured by a premature blast.
17	John W. Davies, .....	Welsh, .....	Miner, .....	53	M. Stanton, .....	Luzerne, ..	Thigh fractured by a rock bell falling on him.
22	Joe Kruchinski, .....	Russian, .....	Laborer, .....	41	M. Bliss, .....	Luzerne, ..	Leg fractured by being caught between a sheet iron and a guard rail.
26	John Vesotski, .....	Polish, .....	Miner, .....	30	M. No. 7 colliery, .....	Luzerne, ..	Badly cut on head, face and back bruised by a fall of rock.
28	Joseph England, .....	English, .....	Slate picker, .....	15	S. Bliss, .....	Luzerne, ..	Arm badly lacerated by being caught by a belt on a scraper line. Outside.
Nov. 1	Michael Spider, .....	Lithuanian, ..	Miner, .....	34	M. Stanton, .....	Luzerne, ..	Arm fractured by a fall of rock and coal.
1	Harry E. Thomas, .....	American, ..	Laborer, .....	19	S. No. 5 colliery, .....	Luzerne, ..	Four fingers smashed by cars running over them. Outside.



TABLE 5.—Continued

Date of accident	Name of Person	Nationality	Occupation	Age	Married or single	Name of Mine	County	Nature and Cause of Accident in Brief
Nov. 7	John Ganski, .....	Polish, .....	Driver, .....	17 S.	No. 5 colliery, .....	Luzerne, ..	Squeezed about the chest and lower portion of the body; caught between car and leg.	
18	Andrew Lesco, .....	Polish, .....	Laborer, .....	20 S.	Hillman vein, .....	Luzerne, ..	Leg broken; run over by empty car. Outside.	
21	Thomas W. Jones, .....	Welsh, .....	Miner, .....	48 M.	No. 5 colliery, .....	Luzerne, ..	Bruised on back and leg; run over by empty car.	
22	Edward Hughes, .....	Welsh, .....	Runner, .....	21 S.	Auchincloss, .....	Luzerne, ..	Small bone in leg broken; caught between a car turning over a hill.	
24	Emuel Boner, .....	American, ..	Driver, .....	20 S.	South Wilkes-Barre, ..	Luzerne, ..	Arm fractured; so severely injured that he had to be taken to the hospital.	
25	John Klazer, .....	Lithuanian, ..	Miner, .....	22 S.	Sugar Notch, .....	Luzerne, ..	Severely burned by an explosion of gas.	
28	Fritzko Patcherack, ..	Russian, .....	Miner, .....	29 M.	Alden, .....	Luzerne, ..	Bruised on back and leg; run over by empty car.	
28	Michael Krynek, .....	Polish, .....	Miner, .....	40 S.	Alden, .....	Luzerne, ..	Leg broken; struck by a piece of rock falling from the roof.	
30	Michael Mulook, .....	Lithuanian, ..	Laborer, .....	20 S.	Maxwell, .....	Luzerne, ..	Leg broken; struck by a piece of rock falling from the roof.	
1	Thomas Morgan, .....	Welsh, .....	Driver, .....	19 S.	No. 7 colliery, .....	Luzerne, ..	Arm fractured; thrown from empty car.	
1	Tim Flanagan, .....	American, ..	Spragger, .....	17 S.	South Wilkes-Barre, ..	Luzerne, ..	Thumb smashed and leg broken by being run over by a loaded car. Outside.	
9	Frank Roth, .....	Polish, .....	Driver, .....	19 S.	Hadleigh, .....	Luzerne, ..	Two fingers cut off; caught between sheet iron and roof.	
10	Reese Thomas, .....	Welsh, .....	Laborer, .....	40 M.	Auchincloss, .....	Luzerne, ..	Small bone in leg fractured; piece of rock fell upon it.	
10	John Katz, .....	Russian, .....	Laborer, .....	40 M.	Red Ash No. 1, .....	Luzerne, ..	Leg broken; stepped on a rock, causing him to fall. Outside.	
14	Daniel A. Jones, .....	Welsh, .....	Miner, .....	46 S.	Auchincloss, .....	Luzerne, ..	Leg badly burned by the burning of a stick of dynamite in his boot.	
19	Andrew Ringer, .....	Polish, .....	Miner, .....	35 S.	Hadleigh, .....	Luzerne, ..	Leg broken by a fall of rock.	
19	Joseph Turd, .....	Slavonian,...	Laborer, .....	20 S.	Franklin, .....	Luzerne, ..	Some elevator buckets fell upon him causing severe injuries. Outside.	
28	James Blootz, .....	Italian, .....	Laborer, .....	25 S.	No. 5 colliery, .....	Luzerne, ..	Leg cut off; run over by mine car.	



## Fatal Accidents

I regret to report an increase of twenty-four fatal accidents. This increase in a great measure was due to the mistakes or carelessness of two engineers, whereby fourteen persons lost their lives. An account of these two accidents accompanies this report. An official investigation of the other accidents shows that at least two-thirds of them were caused by the carelessness of the victims or co-employees.

This in a great measure may be attributed to the ignorance or the unskillfulness of a number of the victims themselves. I have discovered that no matter how often the officials visit the working places, they will always find some one working in danger who needs to be warned, and often severely reprimanded for carelessness. One of the most fruitful causes of accidents, and one it seems where the greatest risks are taken, and the greatest carelessness is shown, is falls of coal and rock. Often the miner neglects to stand a prop under a bad piece of rock or coal, which he should have done. His only reason that he has not done so, is because it would be in his way while loading the car, and thereby cause him a little extra work, and often before the car is loaded the piece falls, and possibly he and his laborers, have paid the penalty of his neglect with their lives. Then again there is often a piece of coal or rock hanging and it is drawn considerably, so much so that the miner believes it is not safe and he and his laborers get drills, and often iron or wooden rails, and put over it and try to pull it down and fail, and they go back to work again under it and say it is safe, and it will not fall, but sometimes they make a mistake, and for such mistakes they often lose their lives or are badly crippled.

The two worst accidents of the year were due to engineers losing control of their engines. The first happened at the Dorrance colliery on March 26th, and the second at the Auchincloss on November 2. By the first, four men lost their lives, and by the second ten men. How the engineers came to lose control of their engines is unknown. Neither of them could offer any satisfactory explanation. The engines were not at fault, as tests and examinations after the accidents proved that they were in good order. The engineers were men of long experience at their work. I think that at all of these large mines where a great many men and boys are employed inside, they crowd to the head of the shaft in large numbers between 6:30 A. M. and 7:00 A. M. to be lowered down to their work. The engineers I believe in some cases lower men down at greater speed than is consistent with the greatest safety. In my trips to different collieries I have cautioned engineers to fully comply with the mine laws and to lower and hoist men at a uniform safe rate of speed. I

have told them that it would be better to turn them back home than to lower them at a rate of speed that is too fast to be absolutely safe.

The victims of the accident at the Dorrance colliery were William Kanylofski, miner, Peter Kavaloski, laborer, John Pepan laborer, and Bert Van Horn, blacksmith. They were instantly killed by the cage on which they were ascending the shaft being hoisted against the sheave with great force, causing the rope to break, and allowing the cage to fall back with its four victims into the mouth of the shaft where it caught fast, a total wreck. One of the victims was held fast in the wreck dead, and the other three fell down to the bottom of the shaft 1,000 feet below.

The engineer, Abe Price, testified before the coroner's jury that he had received the proper signals that there were men on the Baltimore shaft cage and that he started to hoist and ran his engine at the usual rate of speed, and when the cage neared the top he closed the throttle valve and threw the lever. When he got it just over the center, the back pressure blew open the throttle valve and the reverse lever flew back against him. Before he could get the throttle valve closed again and the brake on, the cage had struck the sheave wheel and the damage was done.

A careful examination was made of the engine and the valves after the accident by John Rhinehiemer and James Love, expert machinists from the Vulcan Iron Works, where the engine was manufactured, and the engines and valves were found to be in good order.

This examination was made in the presence of Superintendent F. E. Zerbey and District Superintendent Joseph Jones and other officials of the Lehigh Valley Coal Company, and myself.

After hearing all the testimony the coroner's jury exonerated Abe Price, the engineer, from all blame.

The engineer, Mr. Price, had had twenty-five years' experience as an engineer, and had run the engine at this shaft since it had been sunk. He never before had any accident, but on the contrary had made a very good record for himself.

The other accident occurred at the Auchincloss mine. At 6:40 A. M. November 2, ten men were instantly killed in No. 1 shaft at this mine while being lowered to their work in the Baltimore seam, 1,065 feet below the surface. Jacob W. Fine, hoisting engineer, was in charge of the machinery at the time. John Mondusky, headman, had given the signal to the engineer to lower the cage and did not discover anything wrong until the ascending cage reached the surface landing at a frightful velocity, going through the tower and taking with it bridge trees and sheave wheel. It did not stop until the crosshead and uprights of the cage had become fastened under

the drum in the drum pit, which resulted in stopping the engines. The descending cage struck the landing fans of the Baltimore seam with terrific force, causing both carriage sills to break, dropping with its load of human freight to a depth of 400 feet into the water, the shaft being filled with water to a depth of 210 feet. Rescuers were immediately sent down No. 2 shaft to the Ross vein crossing through to No. 1. They succeeded in climbing down to the surface of the water to ascertain if any of the men might be living, but no signs of life were found. A hasty examination of the two engines was made by District Machinist Trimble, who reported that the engines were all right in every respect and responded to the operation of the throttle valve and levers.

Preparations were immediately made for the recovery of the bodies of the unfortunate victims. The broken cage of the Baltimore landing was hoisted to the surface and taken out and substituted by billy block and bucket. At 4:30 P. M. three men in my charge were sent down to the surface of the water. Platforms were placed upon the buntons, grappling hooks and ropes were secured and the work of grappling for the bodies was begun an hour later.

The remains were brought out in the following order: Bislen Popelews, miner, John Pisarick, miner, William Ashton, Jr., miner, Joe Novick, miner, Frank Kempa, laborer, Frank Selick, miner, Joe Caushen, miner, John Yellowkofski, miner.

The remains of John Ignatovich, miner, were not discovered until 1:20 P. M. November 12, when they were found caught in the debris between the bottom of the broken cage and the broken pieces of an old mine car.

The cause of the accident is practically unknown. Mr. Fine, the hoisting engineer, claims that he had perfect control of his engines until within 50 or 60 feet of the landing. A minute examination made by Mr. J. M. Easton, master mechanic, Mr. Frank Trimble, district machinist and Mr. John Rhineheimer, Supt. of the Vulcan Iron Works, shows that the condition of the engines was in every respect first class. It is therefore very evident that the responsibility for this accident lies with Mr. Fine, the hoisting engineer. It was caused in my opinion by the double throw of the reverse bar during this trip. In other words, after he had started his load with steam, he threw his reverse bar over, permitting the loaded cage to descend by its own weight to within the distance that he claims he had control of his engines. It appears to me that he must have thrown his bar over again, not realizing that his engine was already running against itself and must have given her steam with the intention of slackening speed to reach the fans, when instead of slackening the speed it was increasing to a tremendous velocity, with the result noted above.



The print herewith shows complete section of shafts, location where carriage struck at Baltimore vein, also where the bodies were found.

### Verdict of the Coroner's Jury

We, the jury, find that John Ignatovitz came to his death by the bottom falling out of the cage at the Auchincloss mine of the D. L. and W. Company in Nanticoke borough and that while descending said shaft November 2d, 1904, at about 6:40 o'clock A. M. when the cage was approaching Baltimore vein in said shaft, the engineer failed to check the speed of said cage and that the cage struck the fans so as to break the bottom of same whereby the said John Ignatovitz and others were precipitated down said shaft and met their death and that the cause of the failure of the engineer to check the cage is unknown to the jury.

And we, the jury, do further say that the death of the aforesaid John Ignatovitz and others might not have occurred in such manner if the D. L. & W. Co. had complied with rule No. 1, article 12, of the Anthracite Mine Laws, which provides that the owners, operator or superintendent shall use every precaution to insure the safety of the workmen in all cases which said D. L. & W. Railroad failed to do, by having engineer Jacob W. Fine constantly on duty for almost fourteen hours when the accident occurred.

The jury further recommends that the day shift engineer should start to work at 6 A. M. instead of 7 A. M. thereby relieving the other engineer before the time of lowering the men into the mines arrives. And the jury is resolved of the opinion that eight hours is sufficient for any engineer to be constantly on duty any one day as a hoisting engineer.

The jury was composed of the following: James O'Donnell, Plymouth, John Reagon, Daniel Powell, William Oldfield, Samuel Powell and T. R. Callery, of Nanticoke.

In view of the circumstances connected with this case, I make the following recommendations: That in shafts where two engineers are employed on constant duty during the twenty-four hours each day, the number be increased to three engineers for the same period, and that their day's work, or shifts be as follows:

The day shift engineer to commence work at 6 o'clock A. M., and work until 1 o'clock P. M., or 7 hours; the second engineer to commence at 12 o'clock A. M., and work until 7 o'clock P. M., or 7 hours; and the third engineer to commence at 6 o'clock P. M., and work until 7 o'clock A. M., or 13 hours. By this arrangement the three engineers will be in the engine-house 27 hours each day, or an average of 9 hours each.





AUCHINCLOSS MAIN SHAFT.  
WYOMING LANDING -755 ±

+755 ±

+600

+500

+400

+300

+200

+100

0 ±

-100

-200

-300

-400

-500

-600

-700

-800

-900

-1000

# SECTION

OF

## AUCHINCLOSS MAIN SHAFT

SCALE: 1"=100'

### KEY

A. CARRIAGE STRUCK SHAFT FANG AT BALTIMORE VEIN

B. HEIGHT OF WATER IN SHAFT

C. BODIES OF BISHOP POPELEWS MINER NOV 2 8:44 PM

JOHN PEBORIC MINER NOV 3 1:24 AM

WILLIAM ASHTON JR MINER NOV 3 2:16 AM

JOHN KENYON LABORER NOV 3 2:42 AM

JOE NOVICK MINER NOV 3 2:44 AM

JOHN KEMPA MINER NOV 3 3 AM

FRANK SELECK MINER NOV 3 3:04 AM

JOE KOSHIN MINER NOV 3 3:14 AM

D. JOHN YALLAKORCHI LABORER NOV 3 1:14 PM WERE FOUND

JOHN IGNOTOV CH MINER NOV 2 14 PM WAS FOUND

ROOSEVELT LANDING -740 ±

TOP WATER -755 ±

RED ASH VEIN -870 ±

There would be two competent engineers in the engine house together 3 hours each day, as follows: From 6:00 A. M. to 7:00 A. M., from 12:00 A. M. to 1.00 P. M., and from 6:00 P. M. to 7:00 P. M. In my opinion those 3 hours are very important hours, especially the morning and noon hours, to the men who work in the mines. The morning hour is the one when all the men in the shaft are lowered down to their work, and the noon hour is when a number of the men wish to return home from their work. Often at the present time they are compelled to stop and wait at the foot of the shaft until starting time after dinner. Whereas, if there were two engineers in the engine house they could be hoisted up during the noon hour. In the morning great care should be taken by the engineers while lowering men, and by having another competent engineer standing by in case the engineer who was running the engine made a mistake whereby an accident was liable to occur, the second engineer might be able to prevent it.

More than this, an engineer who is kept busy hoisting steadily all day is sure to be under a heavy strain. It also is a recognized fact that at most shafts where two engineers are employed, the one on night shift has comparatively a small amount of work to do in comparison to the day shift engineer, and therefore the danger of an accident occurring during the night shift is not so great as in the day time.

My sole reason for making the above recommendations is to relieve the strain of the engineer who is doing the work and thereby if possible prevent accidents and the destruction of property. I would also recommend that the foreman in charge of the engineers give them full and proper instructions as to their duties during the hours that the two engineers are in the engine house together, and also designate which engineer shall run the engine during the hour. If these recommendations were adopted at such shafts as I have mentioned, I believe it would have a great tendency to reduce this kind of accidents.

### CONDITION OF COLLIERIES

The condition of the collieries in this district is good in regard to ventilation, with the exception of two, and these two have made a considerable improvement during the year.

I have insisted upon the foremen complying with the law. In most of the mines men can be found working where the ventilation is not as good as it should be, for the reason that at times it is almost impossible to have the air current circulate through the working face. In some cases it is the fault of the foremen in charge who, when there is no gas in the workings, fail to provide proper ventilation because it would cost something to build doors, stoppings and brattice.

As to the roads and drainage, I can say that there is a great difference at the different collieries.

The Lehigh and Wilkes-Barre Coal Company keep their gangway roads in good order and properly drained at all of their collieries.

The Susquehanna Coal Company also keep their new gangways in good condition, but some of the old ones are in poor condition, through no fault of the foremen in charge at present, as these gangways were driven years ago and being dry at the time no provision was made for their drainage. Having become wet from the inside workings, they are hard to keep in good condition.

The Delaware, Lackawanna and Western Railroad Company also keep their roads and drainage in first class condition.

The Delaware and Hudson Company also keep their roads and drainage in first class condition.

The Warrior Run Mining Company keeps its roads and drainage in good condition.

The Alden Coal Company has good roads and drainage.

The Red Ash Coal Company has good roads and drainage.

The Pittston Coal Mining Company does not have very good roads and drainage, but is slowly improving them.

## IMPROVEMENTS

### WILKES-BARRE AND SCRANTON COAL AND IRON COMPANY

This company has erected a new breaker on the original site of the old Hillman vein breaker in the city of Wilkes-Barre and has been preparing and storing coal for over three months.

This is the breaker that Mine Inspector E. E. Reynolds, my predecessor, thought should not be built, because it was being built over the shaft. He began equity proceedings to restrain the company, but the court of Luzerne county decided against him and the company was allowed to construct the breaker which was finished in September, 1904.

I took up the matter with the Chief of the Department of Mines and he advised me to have Mine Inspectors D. T. Davis and P. M. Boyle visit the colliery with me and make an inspection, and then make such recommendations to the company as would insure the greatest possible safety to the inside workmen in case of fire at the breaker.

In accordance with instructions, Inspectors Davis, Boyle and myself visited the Hillman Vein Colliery on December 19, 1904, and after making an inspection of the premises, we recommended the following:

First: That the persons in charge on both day and night shift be properly instructed, in case of fire in the breaker and smoke from

the fire entering the mine, to stop the fan so that the smoke would not be drawn into the mine and smother the workmen.

Second: That the company build two hanging doors, one at each landing in the shaft that could be closed in the event of fire in the breaker, and that the proper persons in charge, both on day and night shift, be fully instructed how and when to close them.

Third: That the manways leading to the two small shafts on second outlets be put and kept in good order at all times and fit for men to travel in, and that large painted signs be put up at different points along the manways for the purpose of showing the workmen the proper route to take to get out quickly.

Fourth: That the company build two iron doors at the mouth of the shaft that could be closed in the event of fire in the breaker. These doors to be so arranged as to prevent any material from falling down the shaft in the event of fire in the breaker.

I am pleased to state that the company has completely followed the recommendations made, and I believe the workmen at this mine are protected as fully against fire as is possible under the existing circumstances.

#### LEHIGH AND WILKES-BARRE COAL COMPANY

##### Hollenback No. 2 Colliery

Outside.—Supply store, barn and carriage house and railroad No. 3 slope to breaker.

Inside.—No. 9 tunnel extended to the Ross, 70 yards; No. 13 tunnel Hillman to Kidney, 82 yards; No. 14 tunnel Hillman to Kidney, 93 yards; No. 15 tunnel Hillman to Kidney, 97 yards; No. 16 tunnel Hillman to Stanton, 52 yards; No. 17 tunnel Red Ash to Top Red Ash 49 yards.

##### South Wilkes-Barre No. 5 Colliery

Outside.—1,000 H. P. water tube boiler; Duplex air compressor, simple steam, compound air.

Inside.—Compound condensing pump and pump room; No. 1 air shaft extended to Baltimore 107 yards; Rock plane airway Kidney to Abbott for No. 11 tunnel, return 44 yards; No. 12 tunnel Baltimore to Five Foot, 62 yards; three-inch drainage bore hole No. 8 slope to No. 9 slope.

##### Stanton No. 7 Colliery

Outside.—500 H. P. water-tube boiler; colliery supply store; railroad No. 4 slope to breaker; 24x48 inch hoisting engine No. 4 slope.

Inside.—Air shaft surface to Abbott; No. 10 tunnel Skidmore to Ross, 80 yards; 3 inch drainage bore hole No. 4 slope to No. 8 plane.



## Sugar Notch No. 9 Colliery

Outside.—Fuel conveyor breaker to boiler house.

Inside.—No. 18 tunnel Baltimore to Cooper, 57 yards; No. 13 tunnel Baltimore to Stanton, 135 yards; No. 16 tunnel Twin to Cooper, 33 yards; No. 17 tunnel Ross to Twin, 37 yards.

## Maxwell No. 20 Colliery

Inside.—No. 18 tunnel Red Ash to Ross, 98 yards; No. 10 tunnel extended to Ross, 124 yards; tunnel airway for No. 7 slope, 67 yards; No. 7 tunnel Red Ash to Red Ash, 39 yards; rock plane airway Red Ash to Ross for No. 18 tunnel, 51 yards.

## SUSQUEHANNA COAL COMPANY

## Colliery No. 5

Outside.—Two new bridges built across Forge Creek for transportation from shafts Nos. 4 and 5, also from No. 14 slope and No. 4 and 4½ drifts. A new Ingersoll duplex compound air compressor placed to further increase the amount of air for hoisting and pumping from No. 2 shafts and No. 4 slope.

Inside.—New tunnel No. 4½ from surface towards Ross seam above drainage level. New slope sunk in Twin Seam inside tunnel No. 8 in No. 2 shaft.

## Colliery No. 6

Outside.—A new jig house was commenced for the better preparation of coal at this breaker.

Inside.—An air shaft was sunk to the bottom split Ross seam No. 6 slope; a new shaft 13x16 feet 6 inches was sunk to a depth of 402 feet to the bottom split Ross vein, also head frame, hoisting engines and foundation, compressor, boilers and boiler house, steam line and tracks on surface for same shafts.

## Colliery No. 7

Outside.—New jig house as previously mentioned completed and now in operation, also boiler house to contain 4,000 H. P. Babcock and Wilcox boilers has been begun and will be completed during the present year.

Inside.—No. 13 tunnel extension to Hillman seam in No. 1 North shaft; a 12 inch bore hole a depth of 979 feet was driven from the surface to the Lee vein for steam line to furnish steam for pumping from the various levels in No. 1 shaft. There were also purchased during the year at No. 5 colliery, 200 steel mine cars.



## LEHIGH VALLEY COAL COMPANY

Dorrance Colliery.—New inside stable for 54 mules completed in Baltimore vein. Stable is a model; every precaution taken against fire; lighted by electricity; Baltimore shaft extended 100 feet, will be continued to the Red Ash vein; No. 13 rock slope for second outlet Red Ash development, extended 460 feet; No. 6 rock slope driven 350 feet through Mill Creek anticlinal, will be continued to Bennett vein basin; No. 9 slope in Bennett vein sunk 1,080 feet; No. 10 slope in Bowkley vein sunk 210 feet; No. 12 slope in Hillman vein river warrant extended 900 feet; No. 7 tunnel, Bennett to Cooper vein, completed, 115 feet; No. 5 tunnel, Hillman to Snake Island, finished, 125 feet; No. 8 tunnel, Hillman to Five Foot, completed, 160 feet; No. 10 tunnel, second opening, completed 455 feet; No. 1 tunnel, Hillman to Bowkley, driven 165 feet and being continued to the Abbott vein; No. 13 tunnel, Hillman to Abbott, driving, 170 feet; new steam brake and steam reverse placed on Baltimore and Hillman shaft hoisting engines; a new Williams crusher installed and all refuse from breaker being ground up and silted in mines; brick house completed and 2 20-31x32-20x24 air compressors being installed; new electric light plant finished for light in breaker and other buildings, also inside stables, foot of shaft, pump houses, etc.; additional mechanical pickers in breaker, also 1 new slate conveyor; 75 additional mine cars.

Franklin Colliery.—No. 7 slope, Sump vein, extended 605 feet; No. 9 slope, Top split of Red Ash vein, sunk 615 feet; No. 10 slope, Ross vein, extended from counter to bottom lift, 1,100 feet; No. 11 slope, Sump vein into Franklin Overturn Basin, 300 feet; No. 15 tunnel from Abbott to Snake Island vein, finished, 120 feet; a new inside stable is being made for 36 mules in Sump vein; a new pump placed and water being pumped out of the old Baltimore fire district; a large sump made in Red Ash vein, two additional pumps placed with new column pipe to surface, preparations being made for central pump plant; work now being pushed developing the smaller and over-lying veins, also re-opening the caved Hillman vein district; the breaker has been over-hauled; new elevators; conveyor lines; mechanical pickers, etc., steam heat, fire protection lines; additional railroad trackage room provided; 100 new mine cars; both collieries have well equipped fire companies.

## DELAWARE, LACKAWANNA AND WESTERN RAILROAD COMPANY

Auchincloss Colliery.—Inside.—Six rock tunnels have been driven connecting the different seams for the purpose of development and ventilation. No 2 slope, Ross vein has been graded for 335 feet on an average dip of 19 degrees. Ross vein has been graded for 335

feet on an average dip of 19 degrees. Ross vein No. 2 shaft has been re-opened east of shaft for a distance of 400 feet. Concrete brick and iron air-bridge was constructed across shaft level gangway east of No. 1 slope, Baltimore vein. Concrete walls have been erected at the entrance into air shaft at Mills and Ross seams. Concrete and iron pump room, located in George vein was completed during the year, and 20x36x10x36 double acting steam condensing pump was installed.

Bliss Colliery.—No improvements worthy of note at this colliery.

Truesdale Colliery.—No. 1 shaft has been sunk to a depth of 567 feet to the Red Ash seam. No. 2 shaft has been sunk to a depth of 562 feet. Preparations are being made for developments at No. 1 shaft east and west for mining purposes, north and south for ventilation and drainage. Permanent hoisting engines and other necessary apparatus for the mining of coal are now being installed. Breaker and washery will be completed early during the coming year. The work of development in the tunnel and slope is being pushed as rapidly as possible. A 24 foot Guibal Vulcan ventilating fan is on the ground and will be installed as soon as weather conditions will permit. Three high pressure Babcock and Wilcox steam boilers have been completed, enclosed in brick and iron building, which will be equipped with modern electric ash and coal conveyors and other up-to-date improvements. In connection with the above it would be well to state that it is the intention of the management to drive all the machinery in above breaker and washery by electricity. In order to accomplish this a large electric plant is now being erected on the east shore of the Susquehanna river to generate power for this work as well as the other collieries located in this section.

This plant will consist of Babcock and Wilcox boilers, five steam turbines, which will generate 5,000 H. P., to be distributed along high tension lines at high voltage to be converted to 250 and 275 volts at the collieries.

#### ALDEN COAL COMPANY

##### Alden Colliery

No. 1 shaft—Outside.—1 boiler plant with 3 sets of the 200 H. P. each finger water tube safety boilers.

No. 2 shaft—Outside.—18 inch bore hole, 507 feet deep, from surface to E vein for inside slope.

No. 2 Shaft—Inside.—Rock tunnel from Cooper to Hillman, 110 feet long; rock tunnel from Cooper to Cooper, through Anticlinal, 156 feet; rock tunnel from Cooper to Hillman and Mills, 120 feet; not yet completed.

## DELAWARE AND HUDSON COMPANY

Conyngham Colliery.—A crusher plant has been installed at a flush hole at this colliery to crush the refuse from the breaker for flushing into the old workings.

## Mine Foremen's Examinations

The examination of applicants for certificates as mine foremen and assistant mine foremen was held at Wilkes-Barre June 15 and 16.

The members of the board of examiners were: James Martin, Mine Inspector, Francis H. Kohlbraker, Superintendent, Patrick Fisher, miner, and Benjamin Williams, miner.

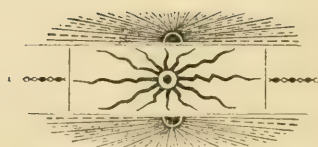
The successful applicants were:

## Mine Foremen

Sidney Buckingham, Plymouth; Neil Sweeney, Plymouth; John W. Pritchard, Edwardsville; John P. Martin, Pittston; Arthur D. Evans, Nanticoke; Henry E. Miller, Maltby; John Johnstone, Christopher; Josiah H. Rogers, Plymouth; Collins Rundle, Forty Fort; Hugh E. Hughes, Peely; Jonah Roberts, Plymouth; Evan S. Morgan, Nanticoke; William Davis, Nanticoke; Rosser Mainwaring, Plains; Shadrach Dodd, Edwardsville; William S. Davis, Nanticoke; Thomas Davis, Sugar Notch; Reese Hammonds, West Pittston; Elmer E. Jones, Parsons; Frank Jones, Wyoming; John H. Corbitt, Edwardsdale; James Waters, Wyoming; John J. Morris, Forty-Fort; Thomas L. James, Wilkes-Barre; David Howells, Parsons; A. G. Hilbert, Plains; James F. Moran, Parsons; John D. Evans, Nanticoke; P. A. Grady, Ashley; William J. Walters, Nanticoke; Albert Buchman, Wyoming; William X. Jones, Nanticoke; George F. Miller, Maltby.

## Assistant Mine Foremen

Elmer E. McQuown, Pond Hill; George Hopper, Glen Lyon; John A. Pritchard, Edwardsdale; Alonzo Russell, Shickshinny; Charles L. Kline, Pond Hill; Peter Gorham Ashley; Joseph Morris, Wanamie; Michael Needham, Miners Mills; Griffith Griffiths, Wilkes-Barre; David J. Thomas, Wilkes-Barre township; John J. Bridle, Pond Hill; John W. Tilley, Lee Park; Thomas I. Evans, Wilkes-Barre; Richard M. Evans, Lee Park; William H. Jenkins, Edwardsdale.



# Eighth District

LUZERNE COUNTY

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Plymouth, Pa., February 28, 1905.

Hon. James E. Röderick, Chief of Department of Mines:

Sir: I have the honor to transmit my annual report as Inspector of Mines for the Eighth Anthracite District for the year ending December 31, 1904. The report gives the statistical information as required by law, and also a tabulated and brief description of the fatal and non-fatal accidents that occurred during the year, with other useful information.

Respectfully submitted,

D. T. DAVIS,  
Inspector.



## SUMMARY OF STATISTICS

Number of collieries, .....	17
Number of mines, .....	35
Number of mines in operation, .....	35
Number of tons of coal shipped to market, .....	5,670,132
Number of tons used at mines for steam and heat, .....	411,557
Number of tons sold to local trade and used by employes, ..	96,964
Number of tons of coal produced, .....	6,178,653
Number of persons employed inside of mines, .....	8,980
Number of persons employed outside, .....	3,274
Number of fatal accidents inside of mines, .....	32
Number of fatal accidents outside, .....	6
Number of non-fatal accidents inside of mines, .....	73
Number of non-fatal accidents outside, .....	6
Number of tons of coal produced per fatal accident inside, ..	193,083
Number of persons employed per fatal accident inside, ...	281
Number of persons employed per fatal accident outside, ..	546
Number of persons employed per non-fatal accident inside, ..	123
Number of persons employed per non-fatal accident out- side, .....	546
Number of wives made widows by fatal accidents, .....	23
Number of children orphaned by fatal accidents, .....	42
Number of steam locomotives used inside of mines, .....	4
Number of steam locomotives used outside, .....	16
Number of compressed air locomotives used inside, .....	1
Number of electric motors used inside, .....	7
Number of fans used for ventilation, .....	37
Number of furnaces used for ventilation, .....	2
Number of gaseous mines in operation, .....	25
Number of non-gaseous mines in operation, .....	10
Number of new mines opened, .....	7

TABLE A

## PRODUCTION OF COAL

Names of Operators	Tons
Lehigh and Wilkes-Barre Coal Company, .....	1,549,577
Delaware and Hudson Company, .....	1,113,362
Delaware, Lackawanna and Western Railroad Company, ..	1,011,691
Parrish Coal Company, .....	692,196
Kingston Coal Company, .....	613,765
West End Coal Company, .....	471,260
Plymouth Coal Company, .....	181,407
George F. Lee Coal Company, .....	50,212
North American Coal Company, .....	305,847
Old Plymouth Coal Company, .....	155,914
West Nanticoke Coal Company, .....	33,422
Total, .....	6,178,653

## Production by Counties

Luzerne, .....	6,178,653
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TABLE B.—Fatal and non-fatal accidents inside and outside of mines; number of tons of coal produced per accident; number of persons employed; number employed per accident

Names of Operators	Fatal Accidents			Non-Fatal Accidents			Tons of coal produced per fatal accident inside	Number of employees inside	Number of employees outside	Total number of employees	Number of employees inside per fatal accident.	Number of employees outside per fatal accident	Number of employees inside per non-fatal accident	Number of employees outside per non-fatal accident
	Inside	Outside	Total	Inside	Outside	Total								
Lehigh and Wilkes-Barre Coal Co., .....	12	3	15	20	1	21	128,131	2,918	699	2,717	168	232	101	699
Delaware and Hudson Co., .....	1	.....	1	15	1	16	1,113,302	2,133	706	2,839	2,133	.....	142	706
Delaware, Lackawanna and Western Railroad Co., .....	3	.....	3	8	1	9	202,338	1,613	424	2,037	323	.....	202	424
Parrish Coal Co., .....	6	.....	6	11	.....	11	113,366	1,290	410	1,700	213	.....	133	.....
Kingston Coal Co., .....	3	.....	3	7	.....	7	294,588	958	424	1,382	306	.....	173	.....
West End Coal Co., .....	3	1	4	8	3	11	157,687	588	213	801	146	253	74	58
Plymouth Coal Co., .....	2	.....	2	4	.....	4	90,704	250	54	140	140	.....	70	.....
George F. Lee Coal Co., .....	.....	1	1	.....	.....	.....	.....	130	51	181	.....	51	.....	.....
Old Plymouth Coal Co., .....	.....	1	1	.....	.....	.....	.....	.....	60	60	.....	60	.....	.....
Miscellaneous companies, .....	.....	.....	.....	.....	.....	.....	.....	.....	99	99	.....	.....	.....	.....
Totals and averages for district, .....	32	6	38	73	6	79	193,063	8,456	3,274	12,274	281	516	123	546

Names of Operators

TABLE C.—Classification of fatal accidents inside and outside of mines

	Inside										Outside						Grand total			
	By Falls of			By Falling Into							Total inside									
	Coal	Slate	Roof	By mine cars	By explosion of gas	Smothered by gas	By powder and dynamite	By blasts, etc.	Shafts	Slopes	Manways, breasts, etc.	Crushed at batteries	By mules	Suffocated by coal, etc.	Miscellaneous causes					
January, .....	1		1	1													1	1	1	3
February, .....																				1
March, .....				1																1
April, .....	2		1	1																1
May, .....			1				5													1
June, .....			1																	1
July, .....		1	1					1												1
August, .....	1	1	1	1																1
September, .....																				1
October, .....	1			3							1									1
November, .....		1	1																	1
December, .....	1																			1
Totals, .....	6	2	9	7			5	1			1					1	22	3	1	28
																				6

TABLE D.—Classification of non-fatal accidents inside and outside of mines

	Inside										Outside										Grand total
	By Falls of					By Falling Into					Total inside					Total outside					
	Coal	State	Hoof	By mine cars	By explosion of gas	Smothered by gas	By powder and dynamite	By blasts, etc.	Shafts	Ships	Manways, beams, etc.	Crushed at batteries	By mules	Suffocated by coal, etc.	Miscellaneous causes	By cars	By machinery	By suffocation	By boiler explosions	Miscellaneous causes	
January	1		2	1	1								1		1						1
February	1	1		1			2														1
March													1								
April			1																		
May		1	3	1	1			1					1		2						1
June	1	1																			
July			1	1	1																
August	1	1													1						
September			2				1								2						
October			1																		
November																					
December	1		4		1			3													
Totals	5	4	14	13	8		3	10					1		6		2				5
																73					79



TABLE E.—Occupations of persons killed or fatally injured inside and outside of mines

	Inside											Outside										
	Mine foremen	Assistant mine foremen	Fire bosses and assistants	Miners	Miners' laborers	Drivers and runners	Door-boys and helpers	Pumpmen	Company men	All other employes	Total inside	Superintendents	Foremen	Blacksmiths and carpenters	Engineers and firemen	Slate pickers (boys)	Slate pickers (men)	Book-keepers and clerks	All other employes	Total outside	Grand total	
January				1	1	1					3									1	1	5
February				1	1	1					3									1	1	5
March				1	1	1					3									1	1	5
April				1	1	1					3									1	1	5
May				1	1	1					3									1	1	5
June				1	1	1					3									1	1	5
July				1	1	1					3									1	1	5
August				1	1	1					3									1	1	5
September				1	1	1					3									1	1	5
October				1	1	1					3									1	1	5
November				1	1	1					3									1	1	5
December				1	1	1					3									1	1	5
Totals				11	14	4	1		2		32				1				5	6	35	

TABLE F.—Occupations of persons injured inside and outside of mines

	Inside										Outside											
	Mine foremen	Assistant mine foremen	Fire bosses and assistants	Miners	Miners' laborers	Drivers and runners	Door-boys and helpers	Pumpmen	Company men	All other employees	Total inside	Superintendents	Foremen	Blacksmiths and carpenters	Engineers and firemen	Slate pickers (boys)	Slate pickers (men)	Book-keepers and clerks	All other employees	Total outside	Grand total	
January, .....	1			1	2	3	2				8										8	8
February, .....	3			1	1	1	1			1	4			1							1	4
March, .....	3			1	1	1			1		5										1	6
April, .....	1			2	2	4	1			1	10									1	1	16
May, .....	1			1	1	1					4											4
June, .....	2			1	1	1					5											5
July, .....	1		1	1	1	1			1		6											7
August, .....	3			1	1	1					6											6
September, .....	1			1	1	1			1		5										1	6
October, .....	2			3	3	1					9										1	10
November, .....	4			1	1	1					8										1	9
December, .....											9											9
Totals, .....	28	1		19	19	11	4		8	2	73			2	1				3	6	79	79

TABLE G.—Nationality of Persons Killed or Fatally Injured Inside and Outside of Mines.

	American	Welsh	Irish	Polish	Italian	Slavonian	Lithuanian	Russian	Totals
January, .....			1		1	1	1	1	3
February, .....									2
March, .....								1	1
April, .....	1			1		1		2	5
May, .....	1	1	1	3					6
June, .....	3								3
July, .....	1	1					1		3
August, .....			1	4		1			6
September, .....									1
October, .....				1	1				2
November, .....	1	1		3					5
December, .....						1		1	2
Totals, .....	7	2	3	12	2	4	2	5	38

TABLE H.—Nationality of Persons Injured Inside and Outside of Mines

	American	English	Welsh	Irish	German	Polish	Italian	Slavonian	Lithuanian	Austrian	Russian	Totals
January, .....	1		2	1		3	1					8
February, .....			1			2			1			4
March, .....	2					1			2		1	6
April, .....	1		1		1	1						4
May, .....	4		2			7		1		1	1	16
June, .....	2				1			1				4
July, .....	2	1		1					1			5
August, .....	1			1		1			1			4
September, .....	5		1			2	2	1			1	12
October, .....											1	1
November, .....	1					1		2	2			6
December, .....						6		2			2	9
Totals, .....	19	1	7	3	2	23	3	7	7	1	6	79







TABLE 1.—Operators, location of collieries, railroads, etc.

Names of Operators and Collieries	County	Name of General Superintendent	Post Office	Name of Superintendent	Post Office	Railroad to Mine
Lehigh and Wilkes-Barre Coal Co. Nottingham, .....	Luzerne, .....	C. F. Huber, .....	Wilkes-Barre, ..	Morgan R. Morgan, inside supt. W. H. Herring, outside supt.	{ Wilkes-Barre, Wilkes-Barre, Wilkes-Barre, Wilkes-Barre, }	C. R. R. of N. J.
Lance, .....						
Reynolds, .....						
Wanamie, .....						
Delaware and Hudson Co. Plymouth No. 2, .....	Luzerne, .....	C. C. Rose, .....	Scranton, .....	E. R. Pettesbone, ..	Scranton, .....	Delaware and Hudson
Plymouth No. 3, .....						
Plymouth No. 4, .....						
Plymouth No. 5, .....						
Boston, .....						
Delaware, Lackawanna and Western Railroad Co. Woodward, .....	Luzerne, .....	R. A. Phillips, ....	Scranton, .....	Henry G. Davis, ..	Kingston, .....	D., L. and W.
Avondale, .....	Luzerne, .....	R. A. Phillips, ....	Scranton, .....	Henry G. Davis, ..	Kingston, .....	D., L. and W.
Parrish Coal Co. Buttonwood, .....	Luzerne, .....	H. H. Ashley, ....	Plymouth, .....	Thomas R. Evans, ..	Plymouth, .....	C. R. R. of N. J.
Kingston Coal Co. Kingston No. 2, .....	Luzerne, .....	H. H. Ashley, ....	Plymouth, .....	Thomas R. Evans, ..	Plymouth, .....	C. R. R. of N. J.
Gaylord, .....	Luzerne, .....	R. S. Mercur, ....	Kingston, .....	Gwilliam Edwards, ..	Edwardsdale, .....	D., L. and W.
West End, .....	Luzerne, .....	R. S. Mercur, ....	Kingston, .....	Gwilliam Edwards, ..	Edwardsdale, .....	D., L. and W.
West End Coal Co. Plymouth Coal Co. Dodson, .....	Luzerne, .....	H. H. Brady, Jr., ...	Scranton, .....	H. A. Fillmore, ...	Shickshinny, .....	Pennsylvania
George F. Lee Coal Co. Chauncey, .....	Luzerne, .....	James B. Davis, ....	Plymouth, .....	.....	.....	D., L. and W.
North American Coal Co. Plymouth washery, .....	Luzerne, .....	George F. Lee, ....	Wilkes-Barre, .....	.....	.....	D., L. and W.
West Nanticoke Coal Co. West Nanticoke washery, .....	Luzerne, .....	H. W. Samms, ....	Wilkes-Barre, .....	J. J. Richards, ....	Plymouth, .....	C. R. R. of N. J.
Old Plymouth Coal Co. Old Plymouth washery, .....	Luzerne, .....	A. D. W. Smith, ....	Kingston, .....	.....	.....	Pennsylvania
.....	Luzerne, .....	H. E. Rissinger, ...	Plymouth, .....	.....	.....	D., L. and W.

TABLE 2.—Number of tons of coal mined, number of days worked, number of persons employed, number killed and injured, quantity of powder and dynamite used, etc.

Names of Operators and Collieries	County	Number of tons of coal shipped to market	Number of tons used at collieries for steam and heat	Number of tons sold to local trade and used by employees	Total production of coal in tons	Number of days worked (totals are averages, not including washeries)	Number of employees	Number of fatal accidents	Number of non-fatal accidents	Number of kegs of powder used	Number of pounds of dynamite used	Number of horses and mules
Lehigh and Wilkes-Barre Coal Co.	Nottingham, .....	572,502	30,000	7,399	609,901	217	986	4	12	11,681	3,505	138
	Lance, .....	275,779	22,000	1,988	299,767	186	627	6	1	7,642	37,498	91
	Reynolds, .....	158,534	15,000	40	173,574	200	363	1	.....	3,501	1,618	72
	Wanlike, .....	444,033	20,000	2,302	466,335	224	711	4	.....	11,984	19,274	110
	Totals, .....	1,450,848	87,000	11,729	1,549,577	207	2,717	15	21	31,803	61,845	404
	Delaware and Hudson Co.											
Plymouth No. 2, .....	Luzerne, .....	218,241	33,336	.....	551,577	224	680	.....	6	9,402	2,106	83
	Luzerne, .....	212,897	18,862	3,340	235,099	196	651	.....	.....	5,273	1,171	78
	Luzerne, .....	.....	.....	.....	.....	.....	.....	.....	.....	5,273	1,171	78
	Luzerne, .....	.....	.....	.....	.....	.....	.....	.....	.....	5,273	1,171	78
	Luzerne, .....	.....	.....	.....	.....	.....	.....	.....	.....	5,273	1,171	78
	Luzerne, .....	.....	.....	.....	.....	.....	.....	.....	.....	5,273	1,171	78
Totals, .....	Luzerne, .....	985,644	120,479	7,229	1,113,362	210	2,839	1	16	35,782	6,483	340
	Delaware, Lackawanna and Western Railroad Co.											
	Woodward, .....	739,600	43,485	5,604	788,649	224	1,482	4	8	18,782	7,985	126
	Avondale, .....	200,012	21,510	1,620	223,042	206	555	1	1	4,799	6,133	61
	Totals, .....	939,672	64,995	7,024	1,011,631	215	2,037	5	9	23,581	14,068	187
	Parrish Coal Co.											
Parrish, .....	Luzerne, .....	234,189	25,000	10,290	269,479	190	699	4	2	8,899	50,700	115
	Buttonwood, .....	388,973	25,000	8,744	422,717	208	1,001	2	9	13,051	26,000	147
	Totals, .....	623,162	50,000	19,034	692,196	199	1,700	6	11	21,950	76,700	262

\*Coal was taken from Plymouth No. 5.



Old Plymouth Coal Co.	145,210	5,480	5,224	155,914	196	60	1	.....	.....	4
Old Plymouth washery, .....										
West Nanticoke Coal Co.	31,424	1,570	428	33,422	172	21	.....	.....	.....	
West Nanticoke washery, .....										
Grand totals, .....	5,670,122	411,557	96,964	6,178,653	203	12,254	38	79	154,236	1,523

TABLE 2.—Recapitulation

Lehigh and Wilkes-Barre Coal Co., .....	1,450,848	87,009	11,739	1,549,577	297	2,717	15	21	34,568	61,845	464
Delaware and Hudson Co., .....	985,614	120,479	7,229	1,113,342	216	2,839	1	16	33,783	6,483	340
Delaware, Lackawanna and Western Railroad Co., .....	939,672	64,995	7,424	1,012,091	215	2,837	1	16	33,781	14,768	387
Parrish Coal Co., .....	623,162	50,600	19,034	692,196	199	2,700	6	13	23,550	16,700	282
Kingsdon Coal Co., .....	564,164	23,608	25,993	613,765	211	1,352	3	7	22,634	21,200	138
West End Coal Co., .....	441,759	21,970	7,531	471,260	230	841	4	11	11,422	71,610	176
Miscellaneous companies, .....	664,883	43,595	18,414	726,892	190	768	4	4	4,088	5,600	71
Totals, .....	5,670,122	411,557	96,964	6,178,653	203	12,254	38	79	154,236	236,896	1,523

TABLE 2.—Continued

Names of Operators	County	Number of Boilers				Locomotives			Total horse power	Number of steam engines of all classes	Total horse power	Number of pumps delivering water to surface	Capacity in gallons per minute	Quantity delivered to surface per minute—Gallons	Number of electric dynamos	Number of air compressors
		Cylindrical	Horse power	Tubular	Horse power	Total horse power	Steam	Air	Electric							
Lehigh and Wilkes-Barre Coal Co., .....	Luzerne,	13	890	34	5,910	6,800	7	1	.....	158	13,340	6	7,554	5,000	.....	4
Delaware and Hudson Co., .....	Luzerne,	120	4,155	10	2,310	6,465	.....	.....	.....	143	10,406	4	8,600	3,000	2	6
Delaware, Lackawanna and Western Railroad Co., .....	Luzerne,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Farrish Coal Co., .....	Luzerne,	6	180	21	4,500	4,680	3	.....	6	42	4,778	9	9,850	3,900	3	5
Luzerne Coal Co., .....	Luzerne,	18	736	23	3,300	4,020	.....	.....	.....	39	7,621	3	2,167	1,452	.....	1
Kingston Coal Co., .....	Luzerne,	47	1,190	3	3,750	1,940	4	.....	1	18	1,635	3	1,300	600	.....	.....
West End Coal Co., .....	Luzerne,	2	40	17	2,050	2,090	6	.....	.....	35	1,205	4	625	275	1	3
Plymouth Coal Co., .....	Luzerne,	.....	.....	12	1,500	1,500	.....	.....	.....	12	1,500	8	2,100	674	.....	2
George F. Lutz Coal Co., .....	Luzerne,	.....	.....	4	360	360	.....	.....	.....	4	225	.....	.....	.....	.....	.....
North American Coal Co., .....	Luzerne,	.....	.....	6	560	560	.....	.....	.....	12	400	.....	.....	.....	.....	.....
Old Plymouth Coal Co., .....	Luzerne,	.....	.....	5	400	400	.....	.....	.....	6	210	.....	.....	.....	.....	.....
West Nanticoke Coal Co., .....	Luzerne,	.....	.....	2	250	250	.....	.....	.....	3	125	1	800	80	.....	.....
Totals, .....		211	7,175	136	21,890	29,065	20	1	7	472	41,445	37	32,996	15,701	6	21



TABLE 3.—Number of each class of employees inside and outside of mines

Names of Operators and Collieries	County	Inside										Outside										Grand totals inside and outside
		Inside										Outside										
		Mine foremen	Assistant mine foremen	Fire bosses and assistants	Miners	Miners' laborers	Drivers and runners	Door boys and helpers	Pumpmen	Company men	All other employees	Total inside	Superintendents	Foremen	Blacksmiths and carpenters	Engineers and firemen	State pickers (boys)	State pickers (men)	Book-keepers and clerks	All other employees	Total outside	
Lehigh and Wilkes-Barre Coal Co.	Luzerne, ....	1	2	8	289	210	78	16	8	110	12	734	...	1	7	31	78	38	4	91	252	886
	Nottingham, .....	1	1	6	155	130	63	26	5	92	3	482	...	1	6	15	50	20	2	50	145	627
	Luzerne, ....	1	1	2	60	77	41	10	58	...	...	250	...	1	7	13	36	16	2	41	113	383
	Reynolds, .....	1	2	5	241	120	74	36	7	60	6	552	...	1	4	14	52	13	4	98	189	741
	Wanlimie, ....	4	6	21	745	537	256	88	20	320	21	2,018	...	4	27	73	216	87	12	280	699	2,717
Totals, .....																						
Delaware and Hudson Co.	Luzerne, ....	1	1	3	142	175	43	25	3	60	43	496	...	1	6	23	53	30	2	69	184	680
	Plymouth No. 2, .....	1	1	3	174	167	66	18	...	29	33	492	...	1	6	19	26	57	2	48	159	651
	Luzerne, ....	1	1	2	109	106	39	10	2	24	32	335	...	1	2	9	...	...	11	23	348	
	Plymouth No. 4, .....	1	...	3	166	169	50	16	1	24	20	330	...	1	7	14	43	53	2	66	186	616
	Plymouth No. 5, .....	1	1	2	160	179	58	18	2	39	30	490	...	1	6	14	54	18	2	59	154	644
Boston, .....		5	3	13	691	736	256	87	8	176	158	2,133	...	5	27	79	176	158	8	253	706	2,839
Totals, .....																						
Delaware, Lackawanna and Western Railroad Co.	Luzerne, ....	3	1	8	373	373	101	60	5	263	...	1,187	...	1	17	28	81	8	4	156	295	1,482
	Woodward, .....	1	1	3	114	154	52	13	11	...	77	426	...	1	4	15	42	...	2	65	129	556
	Avondale, .....	4	2	11	487	527	153	73	16	263	77	1,613	...	2	21	43	123	8	6	221	424	2,037
Totals, .....																						

TABLE 3.—Continued

Names of Operators and Collieries	County	Inside										Outside										Grand totals inside and outside
		Mine foremen	Assistant mine foremen	Pit bosses and assistants	Miners	Miners' laborers	Drivers and runners	Door boys and helpers	Pumpmen	Company men	All other employees	Total inside	Superintendents	Foremen	Blacksmiths and carpenters	Engineers and firemen	Slate pickers (boys)	Slate pickers (men)	Book-keepers and clerks	All other employees	Total outside	
Parrish Coal Co.																						
Parrish, .....	Luzerne, .....	1	2	4	170	159	59	34	4	.....	78	511	3	1	7	17	69	38	9	53	188	
Buttonwood, .....	Luzerne, .....	1	2	5	230	232	89	52	2	.....	166	779	.....	1	8	19	80	37	.....	77	222	
Totals, .....		2	4	9	400	391	148	86	6	.....	244	1,290	3	2	15	36	140	75	9	130	410	
Kingston Coal Co.																						
Gaylord, .....	Luzerne, .....	2	.....	.....	59	59	41	6	3	.....	40	210	1	1	6	8	43	.....	1	34	94	
Kingston No. 2, .....	Luzerne, .....	4	.....	1	334	160	94	41	.....	.....	84	718	1	2	26	20	154	.....	2	125	330	
Totals, .....		6	.....	1	393	219	135	47	3	.....	124	928	2	3	32	28	197	.....	3	154	424	
West End Coal Co.																						
West End, .....	Luzerne, .....	1	5	1	225	215	23	21	3	20	63	588	2	1	20	28	34	30	3	135	253	
Plymouth Coal Co.																						
Dodson, .....	Luzerne, .....	1	1	3	77	77	26	27	5	63	.....	280	1	1	6	18	68	6	2	46	148	
George F. Lee Coal Co.																						
Chaumery, .....	Luzerne, .....	1	.....	1	35	60	8	.....	.....	25	.....	130	.....	1	3	4	12	8	1	21	51	
North American Coal Co.																						
Plymouth washery, .....	Luzerne, .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	2	9	8	.....	1	54	75	



TABLE 3.—Continued

Names of Operators	County	Average Number of Days Worked in Breaker												Total
		January	February	March	April	May	June	July	August	September	October	November	December	
Lehigh and Wilkes-Barre Coal Co., .....	Luzerne, .....	20	18	17	19	17	21	17	14	14	14	15	21	207
Lehigh and Huzum Co., .....	Luzerne, .....	20	20	17	22	23	21	12	18	10	12	18	17	210
Delaware, Lackawanna, and Western Railroad Co., .....	Luzerne, .....	18	17	12	19	21	22	18	16	12	21	20	19	215
Parrish Coal Co., .....	Luzerne, .....	21	16	10	19	21	23	16	18	14	14	15	16	199
Kingston Coal Co., .....	Luzerne, .....	16	13	11	21	21	22	18	18	14	19	19	18	211
West End Coal Co., .....	Luzerne, .....	19	16	16	20	19	20	20	22	20	18	20	20	230
Plymouth Coal Co., .....	Luzerne, .....	18	16	17	17	17	16	11	16	15	13	16	13	187
George F. Lee Coal Co., .....	Luzerne, .....	14	10	9	13	16	16	12	12	12	16	15	15	164
General averages, .....	.....	18	16	14	19	19	20	16	17	14	16	17	17	203

TABLE 4.—Fatal accidents inside and outside of mines

Date of accident	Name of Person	Nationality	Occupation	Age	Married or single	Number of widows	Number of orphans	Name of Mine	County	Nature and Cause of Accident in Brief
Jan.	9 Michaelo Angelo, .....	Lithuanian, ..	Laborer, ..	48	M. 1	1	1	Woodward, .....	Luzerne, .....	Leg squeezed between empty cars. Died February 3.
15	Michael Paproski, .....	Russian, ....	Outside laborer, ..	45	M. 1	4	4	Nottingham, .....	Luzerne, .....	Struck by moving trip of loaded cars.
15	John Moncavage, .....	Slavonian, ..	Miner, .....	30	M. 1	1	1	No. 3 shaft, Kingston, .....	Luzerne, .....	Instantly killed by fall of rock. He was warned several times to take down the piece of rock, but failed to do so.
Feb.	13 Jessup Garall, .....	Italian, .....	Laborer, ..	31	M. 1	2	2	Wanmille, .....	Luzerne, .....	Instantly killed by fall of top coal.
22	Francis McDonald, .....	Irish, .....	Outside laborer, ..	18	S. ....	....	....	Nottingham, .....	Luzerne, .....	In attempting to block a car he stumbled and fell under it.
March	7 Anthony Novick, .....	Russian, ....	Laborer, ..	23	S. ....	....	....	Parrish, .....	Luzerne, .....	Run over by loaded car and instantly killed.
April	7 John Dirs, .....	Polish, .....	Laborer, ..	21	S. ....	....	....	Dodson, .....	Luzerne, .....	He was making place for set of timber when a piece of coal fell and squeezed him against other coal. Died April 8.
12	John Cluck, .....	Russian, ....	Laborer, ..	36	M. 1	1	1	Buttonwood, .....	Luzerne, .....	While assisting to place loaded car on track, he fell under car and was run over.
13	Paul Vilk, .....	Slavonian, ..	Miner, .....	35	M. 1	4	4	Kingston No. 2 shaft, .....	Luzerne, .....	Instantly killed by fall of top rock.
21	Thomas Edwards, .....	American, ..	Outside laborer, ..	17	S. ....	....	....	Chauncey, .....	Luzerne, .....	Fatally injured while attempting to climb over a revolving shaft. Died same day.
23	George Mizer, .....	Russian, ....	Miner, .....	29	M. 1	3	3	Parrish, .....	Luzerne, .....	Fatally injured by fall of top coal. Died next day at hospital.
May	5 Edward Gallagher, .....	Irish, .....	Miner, .....	51	M. 1	2	2	Lance, .....	Luzerne, .....	Instantly killed by an explosion of dynamite.
5	John Phillips, .....	Polish, .....	Laborer, ..	20	S. ....	....	....	Lance, .....	Luzerne, .....	Instantly killed by explosion of dynamite.
5	Thomas Cummings, .....	American, ..	Runner, ..	22	S. ....	....	....	Lance, .....	Luzerne, .....	Fatally injured by explosion of dynamite. Died in hospital May 6.
5	Edward Thomas, .....	Welsh, .....	Driver, .....	19	S. ....	....	....	Lance, .....	Luzerne, .....	Fatally injured by explosion of dynamite. Died same day.
5	Felix Smith, .....	Polish, .....	Laborer, ..	23	M. 1	1	1	Lance, .....	Luzerne, .....	Fatally injured by explosion of dynamite. Died at hospital May 7.



TABLE 4.—Continued

Date of accident	Name of Person	Nationality	Occupation	Age			Name of Mine	County	Nature and Cause of Accident in Brief
				Married or single	Number of widows	Number of orphans			
May	14 Peter Suda, .....	Polish, .....	Laborer, ...	38	M. 1	1	Buttonwood, .....	Luzerne, .....	Fatally injured by fall of rock. Died in hospital same day.
June	10 Daniel Wilson, .....	American, .....	Miner, .....	24	M. 1	1	Woodward, .....	Luzerne, .....	Instantly killed by fall of rock.
	13 Henry Knapp, .....	American, .....	Outside engineer, .....	31	S. ....	....	Nottingham, .....	Luzerne, .....	Fatally injured by an explosion of the company's dynamite. Died June 14.
July	17 William Rheinhammer, .....	American, .....	Miner, .....	35	M. 1	5	Wanmie, .....	Luzerne, .....	Instantly killed by fall of coal.
	6 William Dirs, .....	Lithuanian, .....	Miner, .....	27	M. 1	1	Dodson, .....	Luzerne, .....	Fatally injured by a premature blast. Died same day in hospital.
	15 George W. Stegfriz, .....	American, .....	Miner, .....	37	M. 1	3	West End, .....	Luzerne, .....	Instantly killed by fall of rock.
Aug.	27 Gomer Evans, .....	Welsh, .....	Miner, .....	36	S. ....	....	Nottingham, .....	Luzerne, .....	Instantly killed by fall of slate.
	3 Jacob Conviski, .....	Polish, .....	Outside laborer, .....	47	M. 1	2	Old Plymouth Coal Co., .....	Luzerne, .....	Smothered to death by being drawn through barley coal pocket.
	7 Michael Manley, .....	Irish, .....	Shaft footman, .....	22	S. ....	....	Boston, .....	Luzerne, .....	Fatally injured by fall of coal. Died two hours after accident.
	8 John Kosak, .....	Polish, .....	Laborer, ...	41	M. 1	2	Avondale, .....	Luzerne, .....	Fatally injured by being squeezed between loaded cars and roof.
	11 Michael Groval, .....	Slavonian, .....	Footman, ..	25	M. 1	1	Kingston No. 3 shaft, .....	Luzerne, .....	Fatally injured by piece of coal falling down shaft and striking him on the head, fracturing his skull.
Oct.	12 Stanley Luce, .....	Polish, .....	Laborer, ...	19	S. ....	....	Woodward, .....	Luzerne, .....	Instantly killed while in act of loading the cars.
	16 Paul Dudaek, .....	Polish, .....	Laborer, ...	41	M. 1	1	Parrish, .....	Luzerne, .....	Instantly killed by coal falling on him.
	8 Thomas Barbarette, .....	Polish, .....	Outside brakeman, .....	25	M. 1	1	West End, .....	Luzerne, .....	Instantly killed by being thrown under a loaded trip of cars.
Nov.	14 Dominik Blasl, .....	Italian, .....	Miner, .....	35	M. 1	2	West End, .....	Luzerne, .....	Fatally injured by fall of top coal.
	19 Henry Harner, .....	American, .....	Patcher, ...	16	S. ....	....	Wanmie, .....	Luzerne, .....	Run over by a loaded trip of cars.
	25 Reese J. Jones, .....	Welsh, .....	Miner, ...	68	S. ....	....	Lance, .....	Luzerne, .....	Killed almost instantly by fall of rock.
	26 Joseph Shickwet, .....	Polish, .....	Patcher, ...	16	S. ....	....	Wanmie, .....	Luzerne, .....	He was caught between empty and loaded trip of cars.
	26 John Lesky, .....	Polish, .....	Door-boy, ...	16	S. ....	....	Woodward, .....	Luzerne, .....	Fatally injured by falling under car.
	29 Peter Smith, .....	Polish, .....	Laborer, ...	33	M. 1	....	Reynolds, .....	Luzerne, .....	Injured internally by falling into an abandoned chamber. Died same day.
Dec.	15 Anthony Sobulski, .....	Russian, .....	Laborer, ...	37	M. 1	2	Parrish, .....	Luzerne, .....	Instantly killed by fall of rock.
	23 Michael Carnie, .....	Slavonian, .....	Laborer, ...	45	M. 1	4	West End, .....	Luzerne, .....	Injured internally by fall of coal. Died next day.

TABLE 5.—Non-fatal accidents inside and outside of mines

Date of accident	Name of Person		Nationality	Occupation	Age	Married or single	Name of Mine	County	Nature and Cause of Accident in Brief
Jan.	2	Joseph Long, .....	Polish, .....	Driver, .....	18	S.	Wanlmie, .....	Luzerne, ....	Squeezed about body by riding up slope
	4	Walter Evans, .....	Welsh, .....	Plane runner, .....	25	M.	Buttonwood, .....	Luzerne, ....	Right arm fractured by being thrown against a vertical pulley.
	9	Joseph Yaklidski, .....	Polish, .....	Laborer, .....	27	M.	Boston, .....	Luzerne, ....	Leg fractured and back injured by fall of top rock.
	11	Frank Ransom, .....	American, .....	Door-boy, ....	16	S.	Plymouth No. 5, ..	Luzerne, ....	Right arm fractured by being squeezed between mule and rib.
	22	Davide Ducovski, .....	Italian, .....	Miner, .....	33	M.	West End, .....	Luzerne, ....	Leg fractured by fall of top rock.
	23	Patrick McCue, .....	Irish, .....	Driver, .....	24	S.	Woodward, .....	Luzerne, ....	Hands and face burned by explosion of gas.
	23	Albert Gibbons, .....	Welsh, .....	Door-boy, ....	17	S.	Woodward, .....	Luzerne, ....	Hands and face burned by explosion of gas.
	25	Frank Groboski, .....	Polish, .....	Laborer, .....	24	M.	West End, .....	Luzerne, ....	Leg crushed by being run over by loaded car.
Feb.	8	Auty Legis, .....	Lithuanian, .....	Driver, .....	17	S.	Lance, .....	Luzerne, ....	Leg fractured by being squeezed between car and door.
	15	John Bendiski, .....	Polish, .....	Miner, .....	44	M.	Nottingham, .....	Luzerne, ....	Right leg fractured by fall of top coal.
	22	Joseph Odalski, .....	Polish, .....	Miner, .....	40	M.	Parrish, .....	Luzerne, ....	Hand and face burned by explosion of gas.
	26	Isaac Morgan, .....	Welsh, .....	Miner, .....	40	M.	Buttonwood, .....	Luzerne, ....	Hands and face burned by explosion of gas.
March	18	Arthur Williams, .....	American, .....	Asst. mason, ..	19	S.	Nottingham, .....	Luzerne, ....	Right leg fractured by being squeezed between empty cars.
	19	George Cruzie, .....	Russian, .....	Laborer, .....	24	M.	Dodson, .....	Luzerne, ....	Right leg and ribs fractured by fall of top slate.
	21	Matthew J. Kocher, .....	American, .....	Outside car-penter, .....	32	M.	Woodward, .....	Luzerne, ....	Right thigh fractured by falling from platform.
	21	William Stagaskie, .....	Polish, .....	Miner, .....	44	M.	West End, .....	Luzerne, ....	Leg fractured by fall of top coal.
	31	William Yarkonis, .....	Lithuanian, .....	Miner, .....	35	M.	Wanlmie No. 18, ..	Luzerne, ....	Hands and face burned by a spark falling into a keg of powder.
	31	John Wakulas, .....	Lithuanian, .....	Miner, .....	22	S.	Wanlmie No. 18, ..	Luzerne, ....	Hands and face burned by an explosion of keg of powder.
April	7	William Heide, .....	German, .....	Company-man, ..	40	M.	Kingston No. 3 shaft, .....	Luzerne, ....	Ribs fractured by being kicked by a mule.

TABLE 5.—Continued

Date of accident	Name of Person	Nationality	Occupation	Age	Married or single	Name of Mine	County	Nature and Cause of Accident in Brief
April 15	William Morgan, .....	Welsh, .....	Miner, .....	51	M.	Nottingham, .....	Luzerne, .....	Left leg fractured while trying to jump on loaded trip moving rapidly up the slope.
20	John Rhouda, .....	American, .....	Driver, .....	19	S.	Woodward, .....	Luzerne, .....	Left leg fractured by being run over by a car.
20	George Kogut, .....	Polish, .....	Miner, .....	33	M.	Kingston No. 3 shaft, Woodward, .....	Luzerne, .....	Leg fractured by fall of top rock.
May 2	John Shansulunas, .....	Polish, .....	Door-boy, .....	17	S.	Woodward, .....	Luzerne, .....	Left leg fractured by a mule stepping upon him.
2	David H. Lewis, .....	Welsh, .....	Miner, .....	42	M.	Woodward, .....	Luzerne, .....	Knee lacerated by falling upon piece of coal.
3	Peter Petreconis, .....	Polish, .....	Driver, .....	17	S.	Nottingham, .....	Luzerne, .....	Leg fractured by being caught between spreader and car.
3	Michael Holack, .....	Russian, .....	Miner, .....	42	M.	Buttonwood, .....	Luzerne, .....	Ribs fractured and also badly bruised by being squeezed between empty car and rib.
3	Thomas Senlor, .....	American, .....	Outside sand-boy, .....	17	S.	West End, .....	Luzerne, .....	Leg fractured by being run over by empty car.
6	Joseph Gedda, .....	Polish, .....	Driver, .....	17	S.	Wanmie, .....	Luzerne, .....	Hips squeezed by being caught between loaded car and platform.
7	Adam McQuonn, .....	American, .....	Miner, .....	32	M.	West End, .....	Luzerne, .....	Body badly bruised by fall of top rock.
11	Joseph Yeshinski, .....	Austrian, .....	Laborer, .....	44	M.	Plymouth No. 4, ..	Luzerne, .....	Knee fractured by fall of rock.
17	Robert A. Jones, .....	American, .....	Driver, .....	21	S.	Wanmie, .....	Luzerne, .....	Three ribs fractured and face injured by being squeezed between mule team and rib.
19	Frank Lamphoski, .....	Polish, .....	Miner, .....	21	S.	Nottingham, .....	Luzerne, .....	Left leg fractured by being struck with flying coal from blast.
21	Michael Chasko, .....	Polish, .....	Miner, .....	49	M.	Nottingham, .....	Luzerne, .....	Hands and face burned by an explosion of gas.
25	John M. Mangan, .....	American, .....	Driver, .....	18	S.	Plymouth No. 2, ..	Luzerne, .....	Collar bone fractured by being squeezed between empty cars.
25	Albert Lewis, .....	Welsh, .....	Driver-boss, ..	24	S.	Boston, .....	Luzerne, .....	Leg fractured by being struck by empty car.
26	John Bendiski, .....	Polish, .....	Miner, .....	43	M.	Nottingham, .....	Luzerne, .....	Fracture of right leg by slipping on rail.
27	Andrew Bresno, .....	Polish, .....	Laborer, .....	23	M.	Avondale, .....	Luzerne, .....	Fracture of leg by a fall of top slate.
31	John Egra, .....	Slavonian, .....	Miner, .....	46	M.	West End, .....	Luzerne, .....	Fracture of ankle by a fall of top rock.

June	2	John M. Dula, .....	Slavonian, .....	Miner, .....	28	M. West End, .....	Dodson, .....	Luzerne, .....	Fracture of ribs by a fall of top slate.
	4	Oscar Killeen, .....	American, .....	Driver, .....	24	M. Nottingham, .....	West End, .....	Luzerne, .....	Compound fracture of ankle by being struck by loaded trip.
	13	Samuel Putenbaugh, .....	American, .....	Outside man, .....	41	M. Nottingham, .....	Nottingham, .....	Luzerne, .....	Fracture of leg and body burned by explosion of pipes in the air-compressor room.
	16	Andrew Kashner, .....	German, .....	Miner, .....	30	M. Dodson, .....	Buttonwood, .....	Luzerne, .....	Fracture of leg by a fall of top coal.
July	2	Gabriel Dirca, .....	Lithuanian, .....	Laborer, .....	25	S. Kingston No. 2 shaft, .....	Dodson, .....	Luzerne, .....	Ribs fractured by premature blast.
	11	John McAnay, .....	Irish, .....	Company-man, .....	60	M. West End, .....	Kingston No. 2 shaft, .....	Luzerne, .....	Fracture of right leg by fall of top rock.
13	Roy Folk, .....	American, .....	Outside car-runner, .....	Outside car-runner, .....	24	S. Parrish, .....	West End, .....	Luzerne, .....	Fracture of leg by being run over by empty car.
14	John Allen, .....	English, .....	Miner, .....	Miner, .....	50	M. Plymouth No. 2, .....	Parrish, .....	Luzerne, .....	Cut on head, face and body by premature blast.
14	John Flynn, .....	American, .....	Fire-boss, .....	Fire-boss, .....	47	M. Boston, .....	Plymouth No. 2, .....	Luzerne, .....	Fracture of cheek bone by door that was suddenly blown open by concussion of blasting in rock tunnel.
Aug.	7	William Hayward, .....	American, .....	Timberman, .....	37	M. Wanmille, .....	Boston, .....	Luzerne, .....	Fracture of right thigh by a fall of slate.
	12	John Slavinski, .....	Polish, .....	Laborer, .....	35	S. Woodward, .....	Wanmille, .....	Luzerne, .....	Fracture of shoulder by being struck by loaded trip.
16	Andrew Dougal, .....	Lithuanian, .....	Laborer, .....	Laborer, .....	25	S. Kingston No. 3 shaft, .....	Woodward, .....	Luzerne, .....	Compound fracture of the leg by being struck by piece of coal bursting from pillar.
Sept.	25	John Graven, .....	Irish, .....	Runner, .....	18	S. Kingston No. 3 shaft, .....	Kingston No. 3 shaft, .....	Luzerne, .....	Fracture of leg by being struck by de-railed car.
	7	Nicolas Onko, .....	Slavonian, .....	Miner, .....	28	M. Brattice-man, .....	Kingston No. 3 shaft, .....	Luzerne, .....	Ribs fractured by a fall of rock.
	10	Evan Evans, .....	Welsh, .....	Brattice-man, .....	39	M. Buttonwood, .....	Brattice-man, .....	Luzerne, .....	Burned on hands, face and neck by an explosion of gas.
	10	Thomas Lane, .....	American, .....	Brattice-man, .....	20	S. Plymouth No. 4, .....	Buttonwood, .....	Luzerne, .....	Burned on hands, face and neck by an explosion of gas.
12	Matthew Tomko, .....	Polish, .....	Miner, .....	Miner, .....	44	M. Plymouth No. 2, .....	Plymouth No. 4, .....	Luzerne, .....	Multiple fracture of right thigh by flying coal from a blast.
14	Timothy Condan, .....	American, .....	Shaft f o t - man, .....	Shaft f o t - man, .....	32	M. Plymouth No. 2, .....	Plymouth No. 2, .....	Luzerne, .....	Cut on head by over-winding sending cartiage to sheave.
14	Josiah Stevens, .....	American, .....	Brattice-man, .....	Brattice-man, .....	19	S. Plymouth No. 2, .....	Plymouth No. 2, .....	Luzerne, .....	Cut on head by over-winding sending cartiage to sheave.
14	Sidney Greenly, .....	American, .....	Outside car-penter, .....	Outside car-penter, .....	38	M. Boston, .....	Plymouth No. 2, .....	Luzerne, .....	Steel bar ran through body by over-winding sending cartiage to sheave.
16	Anthony Anthony, .....	Polish, .....	Laborer, .....	Laborer, .....	28	M. West End, .....	Boston, .....	Luzerne, .....	Fracture of leg by a fall of top rock.
16	Cesare Orazi, .....	Italian, .....	Laborer, .....	Laborer, .....	19	S. Buttonwood, .....	West End, .....	Luzerne, .....	Squeezed between car and prop while attempting to jump on loaded slope trip.
22	John Katulka, .....	Russian, .....	Miner, .....	Miner, .....	34	M. Driver, .....	Buttonwood, .....	Luzerne, .....	Burned on face, neck and body by powder while attempting to pull from hole a cartiage that had burst.
27	Roman Wintergrass, ..	Italian, .....	Driver, .....	Driver, .....	17	S. Nottingham, .....	Wanmille, .....	Luzerne, .....	Fracture of the leg. He was snagging car when he was squeezed by oil-box while coming out of gangway.
28	Charles Piat, .....	American, .....	Inside loco-engineer, .....	Inside loco-engineer, .....	39	M. Nottingham, .....	Nottingham, .....	Luzerne, .....	Against a truck of logs, causing a compound fracture of leg.
Oct.	3	John Moslowski, .....	Russian, .....	Laborer, .....	21	S. Plymouth No. 2, .....	Buttonwood, .....	Luzerne, .....	Fracture of leg and ankle by a fall of rock.
	2	Adolph Vythawicz, .....	Polish, .....	Laborer, .....	25	S. Woodward, .....	Plymouth No. 2, .....	Luzerne, .....	Fracture of knee by flying coal from blast.
Nov.	8	John Glitzsaw, .....	Slavonian, .....	Laborer, .....	26	S. Woodward, .....	Woodward, .....	Luzerne, .....	Fractured ribs by being run over by de-railed car.



TABLE 5.—Continued

Date of accident	Name of Person	Nationality	Occupation	Age	Married or single	Name of Mine	County	Nature and Cause of Accident in Brief
Nov.	12 Stephen Anson, .....	Slavonian, .....	Miner, .....	38	M.	Plymouth No. 3, ..	Luzerne, ....	Lacerated face and head by premature blast.
	22 Stewart Banks, .....	American, .....	Outside loco. helper, .....	21	M.	West End, .....	Luzerne, ....	Leg fractured by being caught by derailed car.
	28 Michael Vitavage, .....	Lithuanian, .....	Miner, .....	32	M.	Nottingham, .....	Luzerne, ....	Fracture of left arm by flying coal from a blast.
	28 Anthony Jolinski, .....	Lithuanian, .....	Laborer, .....	49	M.	Nottingham, .....	Luzerne, ....	Fracture of right arm and chest bruised by being struck with loaded car in gangway.
	2 Frank Ganer, .....	Polish, .....	Miner, .....	50	M.	Nottingham, .....	Luzerne, ....	Left eye, also hand lacerated, while tamping hole in the face of chamber. The powder exploded.
Dec.	2 Jacob Palamo, .....	Russian, .....	Laborer, .....	23	S.	Nottingham, .....	Luzerne, ....	Body injured. He was assisting in tamping hole when the powder exploded against it.
	3 Frank Oravich, .....	Slavonian, .....	Miner, .....	41	M.	Kingston No. 3, ..	Luzerne, ....	Ankle fractured by a piece of rock rolling against it.
	6 Michael Vilik, .....	Slavonian, .....	Laborer, .....	45	M.	Kingston No. 3, ..	Luzerne, ....	Fractured leg by a fall of top rock.
	13 Joseph Gzawodnick, .....	Polish, .....	Miner, .....	40	M.	Boston, .....	Luzerne, ....	Fractured knee-cap by flying coal from blast.
	20 George Perlis, .....	Polish, .....	Miner, .....	27	S.	Plymouth No. 3, ..	Luzerne, ....	Burned on hands and face by explosion of gas.
	22 Stanley Gracavitch, .....	Russian, .....	Laborer, .....	18	S.	Buttonwood, .....	Luzerne, ....	Left foot badly lacerated by a fall of rock.
	28 Michael Vitovetz, .....	Polish, .....	Laborer, .....	21	S.	Dodson, .....	Luzerne, ....	Fracture of right leg by piece of coal bursting from rib.
	31 Andrew Onkoski, .....	Polish, .....	Laborer, .....	24	S.	West End, .....	Luzerne, ....	Leg crushed by a fall of top rock.



Accident at the Lance Colliery of the Lehigh and Wilkes-Barre Coal Company

On May 5th at 11.40 A. M. in the Hillman vein seam, 14 tunnel, shaft level, Lance Colliery, an explosion of dynamite occurred by which the following persons were instantly killed:

Edward Gallagher, Irish, miner; John Phillips, Polish, laborer; the following persons fatally injured: Thomas Cummings, American, runner; Edward Thomas, Welsh, driver; Felix Smith, Polish, laborer.

Gallagher and his two laborers were back a considerable distance from the face of the gangway. Gallagher stood at the entrance of the gangway, or at the terminus of the tunnel; Phillips, his laborer, was at the box, where dynamite and caps were stored; Smith was inside, a distance of about 35 feet, when a terrific explosion occurred. Gallagher was killed by shock. Phillips' body was badly mutilated. Smith was burned on the face, arms and body, and received a punctured wound in the pectoral region, and a fracture of thigh and elbow. He died at Mercy Hospital May 7. Cummings died at the Hospital May 6. Edward Thomas died at the City Hospital May 5.

No one who was in the immediate vicinity could give a positive statement how the accident occurred. At the inquest held in the town hall in Plymouth borough, May 9, the following persons testified:

Thomas Davis, being sworn, and examined by Mine Inspector Davis:

Q. Where do you work, Mr. Davis?

A. I work in No. 11.

Q. Company work or miner?

A. Miner.

Q. What part of the Hillman vein do you work in?

A. In the Outlet.

Q. How soon after the explosion did you arrive on the scene?

A. Just as quick as I could run down, three minutes or something like that.

Q. Did you have any conversation with any of those men who were hurt?

A. No.

Q. Did they say anything to you?

A. No; only Cummings asked me for help, to let him know where he was, and I told him he was in the tunnel by the gangway. Told him to be quiet there a little bit, and I went to see what I could do.

Q. Did you get into the gangway at all?

A. No, sir; I did not go any further in.

Q. What do you think the cause of the disaster was?

A. I don't know.

Q. Haven't you any idea?

A. I was working in the face. The laborer said, "Tom, there is something wrong, let us go down to see what is the matter."

Q. How long have you worked in the mines, Mr. Davis?

A. Well; I am working in the mines since I was about eight years old.

Q. How old are you now?

A. Fifty-seven the first of last March.

Q. How many years have you worked in gaseous mines?

A. Eighteen years in the old country, with a safety lamp.

Q. And how many years in gaseous mines in this country?

A. Well I am in Plymouth, and I only worked in Nottingham and No. 11 since '86. I worked six years in Nottingham and the rest in No. 11.

Q. Then you worked 36 years in gaseous mines. Can you tell us in your opinion, whether or not, this was a gas or dynamite explosion?

A. No; I cannot tell you exactly, because I don't know. I have not worked so much with the giant powder, until here lately.

Q. Where you ever in an explosion?

A. I was not in an explosion, but I have seen the effects of explosions.

Q. How did the effects of this disaster compare with the disaster of an explosion of gas?

A. It was nothing to compare.

Q. Well just tell us the difference between an explosion of gas and the explosion that occurred the other day.

A. Well; the real explosion of gas, you can smell the effect of it for some time after, but in this one, there was nothing hardly within an hour after it.

Q. Well, was there any?

A. I could not smell any.

Mr. Joseph Lewis sworn. Examined by Mine Inspector Davis.

Q. Where do you work, Mr. Lewis?

A. In the Outlet.

Q. Where were you on the day of the accident?

A. In the Outlet, sitting down in heading.

Q. Did you feel the shock?

A. Yes, sir.

Q. How soon after the shock did you appear at the scene?

A. I was down there in less than five minutes.

Q. Did you hold conversation with any of the men?

A. Well; Mr. McIntyre was holding Tom Cummings, and the head driver boss went to speak to him. I went there in place of Mr. McIntyre, and I asked him if he knew what happened, and he said he didn't know.

Q. How many persons were there to do rescue work at that time? How many beside Mr. McIntyre and yourself?

A. Only my laborer and Mr. Davis' laborer. When we were coming down we were falling over one thing and another. Evan Jenkins hollowed "Have you any lights?" "Yes;" and he said "for God's sake put them out." So I smothered my lamp.

Q. Did you ask Mr. Cummings what was the cause of the accident?

A. I did when I went to change Mr. McIntyre.

Q. What did he say?

A. He didn't know. Asked him if he saw any fire. He said no.

Q. How long have you worked in gaseous mines, Mr. Lewis?

A. Nine years in No. 11.

Q. Do you know the after-effects of an explosion?

A. Yes, sir.

Q. How did this compare with the after effects, which you have already experienced.

A. It was different altogether.

Q. What in your opinion was the cause of this accident?

A. From the time it first went off it puzzled me. It didn't go off like an explosion of gas.

Q. Do you think the dynamite exploded?

A. Yes; I do think the dynamite exploded.

Q. Mr. Lewis, you stated you have a knowledge of gas. If there was 130 feet or 50 feet, as Mr. Gallagher said, of gas in the place that he was working, what would be the effect of it in the Outlet where you were working?

A. I don't think it would go down that far. I am sure the boys out there would have been roasted.

Q. Suppose there was an accumulation of gas in that section, where would the gas have been in all probability?

A. In the face I should think.

By Juror Gallagher:

Q. Do you think it would make two reports?

A. I think the way the thing went off, that if gas exploded it would surely make another explosion.

Q. You know if the gas exploded there would be a concussion.

A. It would not go so quick.

Mr. Samuel McIntyre sworn. Examined by Mr. Berge:

Q. Do you work in the Lance Colliery, Mr. McIntyre?

A. Yes, sir.

Q. What position do you fill?

A. Bratticeman.

Q. Were you working the day these men were killed?

A. Yes, sir.

Q. Where you into the place?

A. Yes, sir.

Q. Were you there the day before the accident?

A. Yes, sir.

Q. How long previous to the accident?

A. I was just coming out when the boys were eating their dinner.

Q. How long before it occurred?

A. The boys were eating their dinner when I came down, and they wanted me to eat dinner with them.

Q. Then you were in there the day before the accident occurred?

A. Yes, sir.

Q. You think about five minutes before?

A. Yes, sir.

Q. You were in this particular place where these men were working?

A. No, sir; I just passed the place.

Q. Did you see these men?

A. I saw three of them. I think that Gallagher was down with us in the morning.



## Examined by Mine Inspector Davis:

Q. Did you appear on the scene immediately after explosion?

A. Yes, sir; I was the first from the outside.

Q. Did you have any conversation with any of the men that were injured?

A. Yes, sir.

Q. Did you ask them how it occurred?

A. I did a dozen times. I asked Thomas Cummings. I laid under that boy all the time and held him up.

Q. And what was his reply?

A. He told me when the cars came down they struck right in the door. He said that when the driver went to pull the sprags out, that was all he knew. I asked him if he saw any fire. He knew nothing.

Q. Did he complain about being burned?

A. No, sir.

Q. Was he burned according to your idea?

A. No, sir; not that I could see; there was not a hair on him singed.

Q. Have you ever felt the after-effects of an explosion in any colliery in your experience?

A. Yes, sir; I have been there 32 years. I sent my buttty to get safety lamps to the shanty for fear. A great many that understand gas do not understand damp.

Q. Mr. McIntyre, according to your idea, what do you suppose the cause of the explosion was?

A. I believe it was powder, because from the time I went down there I could feel no effects of after-damp at all. I was satisfied when I got down there that there was no after-damp, and I stuck to the boy. I never went further; never passed where the boy was.

Other witnesses testified that the box where the dynamite was stored was smashed to kindling wood, and the manure heap in close proximity, which contained dynamite to be thawed out, was scattered in every direction. Sticks of dynamite that did not explode were lying promiscuously about the gangway. Upon an investigation of the accident and in the examination of the witnesses, who worked close to the scene of the disaster, and others who arrived at the scene of the disaster immediately after its occurrence, I came to the conclusion that the accident was caused by an explosion of dynamite, but by whom and in what manner, could not be ascertained.

The verdict of the jury after meeting in the town hall on the 9th and 23d days of May, A. D. 1904: "Upon view of the body of Edward Gallagher then and there lying dead, and upon the oaths of C. D. Gallagher, Michael Finn, James McFadden, John Dougherty, James O'Donnell, David T. Griffiths, good and lawful men of the county of Luzerne, who being sworn on the part of the Commonwealth, how, when and after what manner the said Edward Gallagher came to his death, do say that the said Edward Gallagher, came to his death and we the jury do further say that from the circumstances connected with the case and the evidence that the aforesaid Edward Gallagher came to his death from shock and burns, from an explosion of gas, in the Hillman vein, Lance No. 11 mine, of the Lehigh and Wilkes-Barre

Coal Co., at Plymouth, Pa., May 5th, 1904, and we the jury do further say that the death of the aforesaid Edward Gallagher would not have occurred in such manner if the Lehigh and Wilkes-Barre Coal Co. had complied with Section 15, Article 10 of the Anthracite Mine Laws, June 2nd, 1891, and amendment to Section 10, Article 10, of the 20th of April, 1899.

Coroner, W. H. BERGE.

Jurors:

James O'Donnell,  
James F. McFadden,  
Michael Finn,  
C. D. Gallagher,  
John Dougherty,  
D. T. Griffiths."

## CONDITION OF COLLIERIES

### LEHIGH AND WILKES-BARRE COAL COMPANY

Nottingham colliery, Lance colliery, Reynolds colliery, Wanimie No. 18 and Wanamie No. 19, condition good as to safety, drainage and ventilation.

### DELAWARE AND HUDSON COMPANY

Plymouth No. 2, Plymouth No. 3, Plymouth No. 4, Plymouth No. 5 and Boston, condition good as to safety, drainage and ventilation.

### WEST END COAL COMPANY

West End, in safe condition, drainage good, ventilation fair.

### PLYMOUTH COAL COMPANY

Dodson, condition good as to safety, drainage and ventilation.

### DELAWARE, LACKAWANNA AND WESTERN RAILROAD COMPANY

Woodward and Avondale, condition good as to safety, drainage and ventilation.

### PARRISH COAL COMPANY

Parrish and Buttonwood, condition good as to safety, drainage and ventilation.

### KINGSTON COAL COMPANY

Kingston No. 2 and Kingston No. 3, in safe condition, drainage good, ventilation fair.

Gaylord, in safe condition, drainage and ventilation fair.



## GEORGE F. LEE COAL COMPANY

Chauncey, in safe condition, drainage good, ventilation fair.

## IMPROVEMENTS

DELAWARE, LACKAWANNA AND WESTERN RAILROAD COMPANY

## Avondale Mines

The following covers the work done at the Jersey fire during the year 1904, which consists in cleaning out an old breast driven from the water level gangway to what was presumed at one time to be the outcrop, but which proved later to be an air shaft or some similar opening, 79 feet deep from the surface. This shaft and breast was re-opened and cleaned and a concrete battery built upon the gangway road and the work of slushing in material was proceeded with, with the result that at this time but very little heat is escaping from any of the openings and crevices on this hillside from which formerly volumes of heat poured forth. On the evening of January 27, 1904, the heavy rains washed out the material that had been formerly slushed into the old Jersey slope for a distance of 75 feet. An investigation was made by Mr. Lewis and myself to ascertain the condition existing, with the gratifying results that where the heat at the top of the slope on the turn-table gangway had been so intense that it was almost impossible for a human being to live therein, icicles were now formed.

A very serious fire was discovered at 7 A. M. September 1, on the head of No. 1 slope Red Ash vein, which taxed the ability and ingenuity of all the officials of the D., L. & W. Coal Mining Department and the Mine Inspector of the District, with the result that on September 20, the last shovelful of burning material was loaded out, without any serious injury to any of the employes employed at this hazardous work, which was very gratifying to me indeed, as a fire could not have occurred in any worse place in any of the collieries of this district. A description as to how it was fought and finally vanquished would fill a good sized volume. I shall therefore not attempt to describe the methods adopted nor the conditions existing.

The installation of mechanical pickers, conveyor lines, new rollers for the preparation and cleaning of coal for the market, comprised part of the improvements. Concrete walls around main air shaft and around the Ross shaft or second opening were erected, and will prevent the water from flowing into these mines during periods of

high water in the Susquehanna river, which has resulted so disastrously to this colliery heretofore.

### Woodward Colliery

New steel tower over No. 1 shaft, installation of endless rope haulage on breaker trestle and to convey empty cars to No. 2 shaft, new brick and concrete pump room, lamp room and fire-boss shanty near the entrance of No. 1 shaft.

Breaker repairs consist of the installation of mechanical pickers, elevators, rollers, etc., together with a new 12 foot dust fan, which has been quite an improvement in this breaker.

Haulage roads and return airways were enlarged and widened, increasing the area of some of these openings from 48 square feet to 90 square feet.

No. 2 shaft was retimbered during the year to within 250 feet of the surface. A brick partition has also been erected between the air shaft and hoistways in this shaft for a distance of 212 feet from the bottom. This work will be completed as weather conditions will permit.

### LEHIGH AND WILKES-BARRE COAL COMPANY

#### Lance No. 11 Colliery

Outside.—Colliery shop.

Inside.—Rock plane airway Cooper to Five Foot for No. 21 tunnel return, 20 yards; 10 inch bore hole Stanton to Red Ash for pumping plant; No. 22 tunnel Cooper to Cooper, 26 yards; rock plane airway Stanton to Hillman for No. 14 tunnel return, 40 yards; No. 11 tunnel extended to Cooper, 95 yards.

#### Nottingham No. 15 Colliery

Outside.—Oil house; three stage air compressor; 2,000 H. P. water tube boilers; fuel conveyor.

Inside.—Compressed air haulage motor for shaft level haulage.

#### Reynolds No. 16 Colliery

Inside.—Tunnel turnout on No. 8 plane, 36 yards.

#### Wanamie No. 18 Colliery

Outside.—Supply store; 24 foot ventilating fan No. 2; locomotive house; 24x48 inch hoisting engines, No. 6 slope; 10 double dwellings.

Inside.—Rock plane airway Red Ash to surface, 175 yards; No. 12 tunnel Ross to Baltimore, 105 yards; No. 13 tunnel Ross to Ross.

## WEST END COAL COMPANY

## Long Drift Basin

One 7x12 foot plane from the Red Ash to the Ross seam, 370 feet; one 7x12 foot tunnel from the Red Ash to the Ross, 400 feet; one 150 foot rope haul at the head of main slope; one 400 foot rope haul at the foot of Ross rock plane; one pair direct motion 24x36 inch slope engines, for main slope.

## Lee Basin

One slope 10x12 feet in Red Ash seam, down 400 feet No. 1 Lee; one slope in Red Ash seam 10x12 feet down 300 feet No. 2 Lee.

Outside.—One 10 foot by 14 inch Vulcan mine locomotive; one 300 H. P. Maxim water tube boiler; new pockets, and a car haul and automatic car tippie at the breaker; 100 mine cars.

## PLYMOUTH COAL COMPANY

## Dodson Colliery

The improvements consist of two items, pumping 96 feet of water out of the Gaylord shaft and increasing pumping capacity over 50 per cent. in order to handle the extra amount of water.

In the year 1894, the Gaylord mines caved in. The company took out their pumps and set them in the shaft some distance above the Ross vein. The water rose to that point—157 feet in the shaft. The Plymouth Coal Company on account of this had to leave 200 feet of coal in the barrier pillar from line to line. In order to mine this coal, arrangements were made by the Plymouth Coal Company to pump this water out. One extra duplex Jeannesville pump 30x12x36 inches was built under the shaft, and one extra Scranton pump, Jeannesville pattern, 24x10x36 inches was built at the bottom of the Red Ash slope. In the meantime two narrow places were driven from the upper gangway, on Red Ash plane, through the above mentioned pillar towards the water, when within 100 feet of the water 3 bore holes were kept in each plane some 60 feet ahead, until the water was struck. Five holes were put through, 3.2 inch and 2.2½ inch holes. Pipes with valves were put on two of them, and the others left running. The head of water on these holes was 134 feet, and they were started October 11, 1904, and by December 31, 80 days, they had discharged 110,277,700 gallons of water or 1,378,471 gallons per day.

## PARRISH COAL COMPANY

## Parrish Colliery

One Knowles pump, 18½x8x18 inch (inside); one compressor, 20x30 inch (Duplex); Norwalk compressor, 20x24 inch, set on concrete foundations; new compressor room, 46x56 feet, old Duplex compressor 24x36 feet moved from old building to new compressor building; one 12 foot fan for breaker; four new emery pickers for breaker; re-timbering No. 1 slope for 206 feet from day-light to rock with 12x16 inch Georgia pine, with the exception of about 40 feet near surface, size 12x12 inch (inside); conducted 8 inch line for distance of 500 feet down slope, from air receiver at compressor room, size 36x36 feet (inside); elevated tracks from head of surface slope to foot of breaker plane 1,000 feet; all the above compressors located in new building on concrete foundations.

## Buttonwood Colliery

Outside.—One engine 24x36 inch; two Norwalk compressors 28x30 inch; one engine, 12x14 inch, for carpenter shop; planers, etc., for carpenter shop; one Knowles pump, 14x7x12 inch; two 72 inch by 18 foot tubular boilers, 300 H. P.

Inside.—One tunnel 300 feet long from Hillman to Hillman; one pipe line 400 feet from boiler to head hoisting shaft.

## DELAWARE AND HUDSON COMPANY

## Plymouth No. 2

No. 10 plane driven through fault 350 feet, top Red Ash vein; No. 7 plane Stanton vein extended 650 feet; No. 4 slope extended 590 feet to boundary of Red Ash vein; No. 6 slope Stanton vein extended 200 feet; No. 7 slope Red Ash vein driven 300 feet to limit against fault; No. 8 slope Hillman slope driven 850 feet.

A new plane is being graded and equipped in Bennett vein through old outlet to No. 5 slope.

Pump room in Red Ash vein has been arched with masonry and brick.

Hillman landing has all been re-timbered and planked preparatory to flushing culm over timbering.

Jeanesville pump, 22x12x36 inch, installed at Plymouth No. 1 in Hillman vein, pumping water to surface.

Plymouth No. 3.—New rope hole drilled and new engines 12½x15 inch installed for No. 1 Cooper slope which has just been reopened after squeeze of 1903.



New barn built in Cooper vein to take place of barn destroyed by squeeze of 1903 in 5 foot vein.

Flushing hole and crushers to crush refuse from breaker for flushing purposes installed.

Plymouth No. 4.—No. 10 plane Ross vein driven 150 feet.

Plymouth No. 5.—Rope hole drilled and 12½x15 inch engines installed for No. 5 plane, top Red Ash vein, which has been extended 370 feet.

Boston.—No. 4 rock plane from bottom to top Red Ash completed 400 feet and extended in coal 200 feet; No. 4 tunnel Ross vein driven 132 feet; No. 10 plane, top Red Ash, extended 600 feet; No. 9 plane, top Red Ash, extended 400 feet; No. 11 plane, Bennett vein, has been opened from the old No. 1 tunnel level, 900 feet; foot of shaft Red Ash vein retimbered and equipped with light car haul.



## Ninth District

LUZERNE AND CARBON COUNTIES

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Hazleton, Pa., February 20, 1905.

Hon. James E. Roderick, Chief of Department of Mines:

Sir: I have the honor of transmitting herewith my annual report as Inspector of Mines for the Ninth Anthracite District for the year ending December 31, 1904.

It contains in addition to the usual tables, plans of boundary pillars agreed upon in the office of the Mine Inspector between G. B. Markle and Company and the Pond Creek Coal Company at Pond Creek, and Coxe Brothers and Company, Incorporated, and John S. Wentz and Company at Hazle Brook. It also shows that during the year 1904 more coal was produced in this district than ever before in a single year. It also gives an approximate estimate of the amount of rock and earth removed from coal veins by stripping operations.

Respectfully submitted,

DAVID J. RODERICK,  
Inspector.

## SUMMARY OF STATISTICS

Number of collieries, .....	29
Number of mines, .....	101
Number of mines in operation, .....	108
Number of tons of coal shipped to market, .....	5,680,794
Number of tons used at mines for steam and heat, .....	838,745
Number of tons sold to local trade and used by employes, ..	152,361
Number of tons of coal produced, .....	6,671,900
Number of persons employed inside of mines, .....	9,121
Number of persons employed outside, .....	6,181
Number of fatal accidents inside of mines, .....	36
Number of fatal accidents outside, .....	12
Number of non-fatal accidents inside of mines, .....	63
Number of non-fatal accidents outside, .....	23
Number of tons of coal produced per fatal accident inside, ..	185,331
Number of persons employed per fatal accident inside, ...	253
Number of persons employed per fatal accident outside, ...	515
Number of persons employed per non-fatal accident in- side, .....	145
Number of persons employed per non-fatal accident out- side, .....	269
Number of wives made widows by fatal accidents, .....	26
Number of children orphaned by fatal accidents, .....	44
Number of steam locomotives used inside of mines, .....	20
Number of steam locomotives used outside, .....	86
Number of compressed air locomotives used inside, .....	13
Number of fans used for ventilation, .....	57
Number of furnaces used for ventilation, .....	1
Number of gaseous mines in operation, .....	28
Number of non-gaseous mines in operation, .....	73
Number of new mines opened, .....	5

## TABLE A

## PRODUCTION OF COAL

Names of Operators	Tons
Lehigh Coal and Navigation Company, .....	1,229,126
G. B. Markle and Company, .....	1,078,050
Lehigh Valley Coal Company, .....	988,338
Coxe Brothers and Company, Incorporated, .....	945,176
A. Pardee and Company, .....	499,614
Pardee Brothers and Company, .....	449,853
Estate A. S. Van Wickle, .....	385,980
Calvin Pardee and Company, .....	354,830
Upper Lehigh Coal Company, .....	279,738
C. M. Dodson and Company, .....	215,941
John S. Wentz and Company, .....	128,189
Pond Creek Coal Company, .....	44,731
Black Creek Coal Company, .....	35,782
M. S. Kemmerer and Company, .....	18,421
Thomas R. Reese and Son, .....	9,075
Hacklebernie Coal Company, .....	9,056
Total, .....	6,671,900

## Production by Counties

Luzerne, .....	4,659,836
Carbon, .....	2,012,064
Total, .....	6,671,900

TABLE B.—Fatal and non-fatal accidents inside and outside of mines; number of tons of coal produced per accident; number of persons employed; number employed per accident

Names of Operators	Fatal Accidents			Non-Fatal Accidents			Tons of coal produced per fatal accident inside	Tons of coal produced per non-fatal accident inside	Number of employees inside	Number of employees outside	Total number of employees	Number of employees inside per fatal accident	Number of employees outside per fatal accident	Number of employees inside per non-fatal accident	Number of employees outside per non-fatal accident
	Fatal Accidents			Non-Fatal Accidents											
	Inside	Outside	Total	Inside	Outside	Total									
Lehigh Coal and Navigation Co.,	4	1	5	1	.....	1	367,281	1,229,126	1,414	1,287	2,703	354	1,989	1,414	.....
G. B. Mangle and Co.,	5	1	6	11	.....	11	215,610	98,065	1,474	559	2,033	295	746	434	.....
Lehigh Valley Coal Co.,	4	1	5	12	5	17	217,084	82,361	1,693	746	2,439	423	746	111	149
Coke Brothers and Co., Inc.,	6	6	12	9	4	13	157,529	195,029	1,188	927	2,115	188	155	132	103
A. Furlow and Co.,	.....	.....	.....	5	.....	5	99,923	99,923	897	468	1,365	161	155	101	117
Fardoe Brothers and Co.,	.....	.....	.....	5	.....	5	80,971	61,265	551	552	1,103	116	79	79	184
Estate A. S. Van Winkle,	1	.....	1	7	.....	7	382,980	55,110	552	412	914	502	412	72	.....
Calvin Fardoe and Co.,	1	.....	1	5	1	6	177,115	76,906	489	329	819	340	291	96	333
Clavin Lehigh Coal Co.,	1	.....	1	3	1	4	273,758	95,216	261	329	600	261	145	87	379
C. M. Fardoe and Co.,	2	.....	2	.....	.....	.....	215,391	61,111	500	192	692	500	192	102	.....
John S. Wentz and Co.,	1	1	3	2	.....	2	64,084	18,421	262	132	394	102	153	102	.....
M. S. Kemmerer and Co.,	.....	.....	.....	1	.....	1	.....	.....	291	147	438	.....	.....	45	.....
Miscellaneous companies,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Totals and averages for district,	36	12	48	62	23	85	185,331	105,903	9,121	6,181	15,302	275	515	115	299

Names of Operators

TABLE C.—Classification of fatal accidents inside and outside of mines

	Inside										Outside						Grand total
	By Falls of		By Falling Into		Shatts	Slopes	Manways, breasts, etc.	Crushed at batteries	By mules	Suffocated by coal, etc.	Miscellaneous causes	Total inside					Total outside
	Coal	Slate	Roof	By mine cars	By explosion of gas	Smothered by gas	By powder and dynamite	By blasts, etc.									
January, .....	1							1				1					1
February, .....	1			3												2	2
March, .....																	1
April, .....																	
May, .....																	
June, .....		1		1			1										1
July, .....		1								1		3					1
August, .....	1	1					1				1	3					1
September, .....		1	1									4					2
October, .....	1			1				1				3					3
November, .....	1	1						1				4					4
December, .....	1		1					1				3					3
Totals, .....	11	5	4	5			2	3		1	1	36	5	1	1	3	48



TABLE D.—Classification of non-fatal accidents inside and outside of mines

	Inside										Outside					Grand total																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
	By Falls of			By mine cars	By explosion of gas	Smothered by gas	By powder and dynamite	By blasts, etc.	Shafts	Slopes	By Falling Into		Crushed at batteries	By mules	Suffocated by coal, etc.		Miscellaneous causes	Total inside																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
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TABLE F.—Occupations of persons injured inside and outside of mines

	Inside										Outside										
	Mine foremen	Assistant mine foremen	Fire bosses and assistants	Miners	Miners' laborers	Drivers and runners	Door boys and helpers	Pumpmen	Company men	All other employees	Total inside	Superintendents	Foremen	Blacksmiths and carpenters	Engineers and firemen	Slate pickers (boys)	Slate pickers (men)	Book-keepers and clerks	All other employees	Total outside	Grand total
January, .....	1			1	13	7	2		3		63		1	1	2	2		1	16	23	86
February, .....	4			1	10	1					9										19
March, .....	3			1	10		1		1		9										22
April, .....	3			1	10	3					9										22
May, .....	1			1	10	1	1				9										22
June, .....	1			1	10						9										22
July, .....	1			1	10	1					9										22
August, .....	1			1	10	1					9										22
September, .....	1			1	10	1					9										22
October, .....	3			3	10	1			2		9		1	1		1		1	3	6	11
November, .....	6			3	10	1					9		1								11
December, .....																					
Totals, .....	1			22	18	7	2		3		63		1	1	2	2		1	16	23	86

TABLE G.—Nationality of Persons Killed or Fatally Injured Inside and Outside of Mines

	American	Irish	German	Polish	Hungarian	Italian	Slavonian	Austrian	Russian	Totals
January, .....				1						1
February, .....	3	1		2	2		1			9
March, .....		1			1	1				4
April, .....		1		1			1			2
May, .....						1				1
June, .....	2			2						4
July, .....				3	1					4
August, .....	2			1	1		1			5
September, .....	1			2	1		2			6
October, .....				2					1	3
November, .....	2			1				1		4
December, .....	2		1	1	1					5
Totals, .....	12	3	1	16	7	2	5	1	1	48

TABLE H.—Nationality of Persons Injured Inside and Outside of Mines

	American	English	Welsh	Irish	German	Polish	Hungarian	Italian	Slavonian	Lithuanian	Austrian	Russian	Totals
January, .....	1					3		2					6
February, .....	1			3			3		1				8
March, .....	1				1	2	1						5
April, .....	3					1	1						6
May, .....	6					1	2		2		1	1	13
June, .....		1				4	1	1					7
July, .....		1				2	1	1					4
August, .....							4	1			1		6
September, .....	3								1	1			4
October, .....	4			1		1		1					7
November, .....	2					1	3	1	1	1			9
December, .....	1		1	1		4	1	1				2	11
Totals, .....	21	2	1	5	1	20	16	8	5	2	2	3	86

TABLE I.—Operators and mines, kind of openings, type and size of fans, size of furnaces, volume of air produced by fan or furnace per minute, number of splits of air currents, number of persons employed inside, and quantity of air produced for each person per minute

Names of Operators and Mines	Kind of opening	Gaseous or non-gaseous	Method of ventilation	Diameter of fan in feet	Width of blades in feet	Length of blades in feet	Number of revolutions per minute	Water gauge developed—inches	Name of fan	Power used	Area of furnace bars in square feet	Number of splits of air currents	Number of cubic feet of air per minute entering the mine at inlet	Total quantity of air per minute circulating in all the splits in cubic feet	Number of cubic feet per minute passing out at outlet	Number of persons employed inside	Average number of cubic feet per minute provided for each person
Lehigh Coal and Navigation Co.																	
Colliery No. 1, .....	Shaft, ..	Gaseous, ..	Fan, .....	24	8	6	63	9	Guibal, ..	Steam, ..	.....	.....	121,365	77,820	198,320	125	638
Colliery No. 1, .....	Tunnel, ..	Gaseous, ..	Fan, .....	15	3.9	3.9	84	7	Guibal, ..	Steam, ..	.....	.....	53,975	46,520	59,015	80	522
Colliery No. 1, .....	Slope, ..	Gaseous, ..	Fan, .....	16	8	4.6	120	1.2	Guibal, ..	Steam, ..	.....	.....	13,000	11,000	48,000	32	344
Colliery No. 4, .....	Slope, ..	Gaseous, ..	Fan, .....	21	8	5.3	75	.9	Guibal, ..	Steam, ..	.....	.....	58,000	36,200	57,800	181	200
Colliery No. 5, .....	Shaft, ..	Gaseous, ..	Fan, .....	13	8	3	60	.5	Guibal, ..	Steam, ..	.....	.....	66,350	66,350	70,350	120	553
Colliery No. 6, .....	Shaft, ..	Gaseous, ..	Fan, .....	24	8	6	80	1.2	Guibal, ..	Steam, ..	.....	.....	32,910	32,420	83,750	94	345
Colliery No. 6, tunnel, ..	Tunnel, ..	Non-gas, ..	Natural, ..										29,560	27,500	31,000	50	550
Colliery No. 9, tunnel, ..	Tunnel, ..	Gaseous, ..	Natural, ..														
Colliery No. 9, No. 3 tunnel, ..	Tunnel, ..	Non-gas, ..	Natural, ..														
Colliery No. 9, Sheep's tunnel, ..	Tunnel, ..	Non-gas, ..	Natural, ..														
Colliery No. 9, McCready's drift, ..	Drift, ..	Non-gas, ..	Natural, ..														
G. E. Markle and Co.																	
Jeddo No. 4 and Ebervale, ..	Slope, ..	Gaseous, ..	Fan, .....	24	7.16	6.3	75	2	Guibal, ..	Steam, ..	.....	.....	75,000	75,000	85,000	286	262
Ebervale No. 1, .....	Slope, ..	Non-gas, ..	Fan, .....	16	4.5	4.6	75	.5	Guibal, ..	Steam, ..	.....	.....	53,000	45,000	63,000	136	360
Ebervale No. 3, .....	Slope, ..	Non-gas, ..	Fan, .....	16	4.5	4.6	75	.5	Guibal, ..	Steam, ..	.....	.....	100,500	91,900	117,390	355	256
Ebervale No. 5, .....	Slope, ..	Non-gas, ..	Fan, .....	16	4.5	4.6	70	1.2	Guibal, ..	Steam, ..	.....	.....					
Highland No. 1, .....	Slope, ..	Gaseous, ..	Fan, .....	16	4.5	4.6	70		Guibal, ..	Steam, ..	.....	.....					
Highland No. 2, .....	Slope, ..	Gaseous, ..	Fan, .....	16	4.5	4.6	70	.5	Guibal, ..	Steam, ..	.....	.....	60,000	56,500	63,500	216	262
Highland No. 2, Stripping E. slope, ..	Slope, ..	Non-gas, ..	Fan, .....														
Highland No. 6, .....	Slope, ..	Non-gas, ..	Steam exhaust, ..														

\*Robbing—No air measurements taken.

†New slope.



## Lehigh Valley Coal Co.

Hazleton No. 1,	Gaseous,	Fan,	20	6	6	60	.....	Guibal,	Steam,	10	94,315	62,585	86,730	158	372
Hazleton No. 8,	Slope,	Fan,	16	4	5	80	.....	Guibal,	Steam,	8	63,652	47,614	64,768	128	362
Hazleton No. 1,	Slope,	Fan,	16	4	5	80	.....	Guibal,	Steam,	8	63,652	47,614	64,768	128	362
Hazleton No. 3,	Slope,	Fan,	14	4	4	75	.....	Guibal,	Steam,	5	56,550	38,500	49,000	102	378
Hazleton No. 5,	Slope,	Fan,	14	4	4	75	.....	Guibal,	Steam,	6	56,550	38,500	49,000	102	378
Hazleton No. 6,	Slope,	Fan,	14	4	4	75	.....	Guibal,	Steam,	6	56,550	38,500	49,000	102	378
Hazleton shaft,	Shaft,	Fan,	20	7	6	60	.....	Guibal,	Steam,	14	146,790	87,770	135,000	277	317
Spring Brook No. 1,	Slope,	Fan,	16	3	6	55	.....	Guibal,	Steam,	6	38,000	22,200	39,200	76	284
Spring Brook No. 2,	Slope,	Fan,	14	4	4	60	.....	Guibal,	Steam,	5	43,500	28,500	49,000	102	279

## Coxe Brothers and Co., Inc.

Drifton No. 1,	Slope,	Fan,	20	6	5.6	45	.....	Guibal,	Steam,	4	46,000	42,000	42,000	71	580
Drifton No. 2,	Slope,	Fan,	20	6	5.6	80	.....	Guibal,	Steam,	3	145,000	138,000	147,000	146	946
Eckley No. 1,	Slope,	Natural,	.....	.....	.....	.....	.....	Guibal,	.....	.....	6,000	6,000	6,000	1,000	.....
Eckley No. 2,	Slope,	Natural,	.....	.....	.....	.....	.....	Guibal,	.....	.....	30,000	10,000	30,000	15	667
Eckley No. 6,	Slope,	Natural,	.....	.....	.....	.....	.....	Guibal,	.....	.....	.....	.....	.....	.....	.....
Eckley No. 10,	Slope,	Natural,	.....	.....	.....	.....	.....	Guibal,	.....	.....	.....	.....	.....	.....	.....
Stockton Mountain,	Tunnel,	Natural,	.....	.....	.....	.....	.....	Guibal,	.....	.....	.....	.....	.....	.....	.....
Stockton,	Natural,	Natural,	.....	.....	.....	.....	.....	Guibal,	.....	.....	.....	.....	.....	.....	.....
Beaver Meadow No. 2,	Slope,	Fan,	20	5	5.6	60	.....	Guibal,	.....	.....	.....	.....	.....	.....	.....
Beaver Meadow No. 4,	Slope,	Fan,	12	5	3	65	.....	Guibal,	.....	.....	.....	.....	.....	.....	.....
Tonhicken,	Drift,	Furnace,	.....	.....	.....	.....	.....	Guibal,	.....	.....	.....	.....	.....	.....	.....
Doninger,	Drift,	Fan,	20	6	5.6	90	.....	Guibal,	.....	.....	.....	.....	.....	.....	.....
Gowan Nos. 1 and 3,	Tunnel,	Fan,	18	5	4	100	.....	Guibal,	.....	.....	.....	.....	.....	.....	.....
Gowan No. 4,	Slope,	Fan,	20	6	5.7	95	.....	Guibal,	.....	.....	.....	.....	.....	.....	.....

## A. Fardee and Co.

Cranberry No. 1, North,	Slope,	Fan,	16	4	4	70	.....	Guibal,	.....	.....	98,357	100,633	102,908	139	716
Cranberry No. 1, South,	Slope,	Fan,	16	4.1	4	50	.....	Guibal,	.....	.....	89,107	91,816	94,525	128	701
Cranberry No. 4,	Slope,	Fan,	16	4.9	4	60	.....	Guibal,	.....	.....	50,000	55,000	60,000	106	511
Cranberry No. 4,	Drift,	Fan,	16	4.9	4	60	.....	Guibal,	.....	.....	5,000	5,000	5,000	8	625
Cranberry No. 5,	Slope,	Fan,	16	4.6	4	80	.....	Guibal,	.....	.....	21,000	24,050	27,100	93	258
East Crystal Ridge No. 5,	Slope,	Fan,	16	4.6	4	80	.....	Guibal,	.....	.....	36,380	36,410	36,410	54	674

## Fardee Brothers and Co.

Latimer No. 13,	Slope,	Fan,	16	4.6	4.3	66	.....	Guibal,	.....	.....	16,424	21,977	26,530	21	1,041
Latimer No. 9,	Slope,	Fan,	16	6.6	4.5	66	.....	Guibal,	.....	.....	35,742	50,685	65,628	53	956
Latimer No. 1,	Slope,	Fan,	16	6.6	4.5	66	.....	Guibal,	.....	.....	35,742	50,685	65,628	53	956
Latimer No. 2,	Slope,	Fan,	16	4.6	4.3	66	.....	Guibal,	.....	.....	36,580	39,380	41,880	70	562
Latimer No. 8,	Slope,	Fan,	16	4.2	4	185	.....	Guibal,	.....	.....	18,600	19,746	21,893	25	789
Latimer Black Basin,	Slope,	Fan,	5	3.9	3	200	.....	Guibal,	.....	.....	19,040	20,187	21,334	35	577
Latimer, Orphan's Home,	Slope,	Natural,	.....	.....	.....	.....	.....	Guibal,	.....	.....	.....	.....	.....	.....	.....
Latimer, Carter's Basin,	Slope,	Natural,	.....	.....	.....	.....	.....	Guibal,	.....	.....	.....	.....	.....	.....	.....
Latimer, West End No. 3,	Slope,	Natural,	.....	.....	.....	.....	.....	Guibal,	.....	.....	.....	.....	.....	.....	.....
Latimer, Shaft Basin,	Slope,	Natural,	.....	.....	.....	.....	.....	Guibal,	.....	.....	.....	.....	.....	.....	.....
Latimer, South Gamma No. 4,	Slope,	Natural,	.....	.....	.....	.....	.....	Guibal,	.....	.....	.....	.....	.....	.....	.....
Latimer, Line Pillar,	Slope,	Natural,	.....	.....	.....	.....	.....	Guibal,	.....	.....	.....	.....	.....	.....	.....
Estate A. S. Van Winkle	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Coal-rain Puck Mountain,	Slope,	Fan,	16	4	5	75	.....	Guibal,	.....	.....	37,194	34,951	41,062	134	260
Evans Buck Mountain,	Slope,	exhaust,	.....	.....	.....	.....	.....	Guibal,	.....	.....	5,860	5,280	6,250	24	220

\*Robbing—No air measurements taken.  
 †Numerous cave holes prevent measurement.

TABLE I.—Continued

Names of Operators and Mines	Kind of opening	Gasous or non-gaseous	Method of ventilation	Diameter of fan in feet	Width of blades in feet	Depth of blades in feet	Number of revolutions per minute	Water gauge developed—inches	Name of fan	Power used	Area of furnace bars in square feet	Number of splits of air currents	Number of cubic feet of air per minute entering the mine at inlet	Total quantity of air per minute circulating in all the splits in cubic feet	Number of cubic feet per minute passing out at outlet	Number of persons employed inside	Average number of cubic feet per minute provided for each person
Coleraine No. 2, New, .....	Slope...	Non-gas.	Natural.	16	4.6	4.3	72	2	Guibal...	Steam...	1	1	8,000	20,000	8,000	10	600
Coleraine No. 2, Old, .....	Slope...	Non-gas.	Natural.	16	4.6	4.3	72	2	Guibal...	Steam...	1	1	29,000	29,000	29,000	10	322
Coleraine No. 8, .....	Slope...	Non-gas.	Natural.	16	4.6	4.3	72	2	Guibal...	Steam...	1	1	50,000	50,000	50,000	180	278
Coleraine No. 9, .....	Slope...	Non-gas.	Natural.	16	4.6	4.3	72	2	Guibal...	Steam...	1	1	18,000	18,000	18,000	60	296
Calvin Pardee and Co.	Slope...	Non-gas.	Natural.	16	4.6	4.3	72	2	Guibal...	Steam...	1	1	40,000	38,000	42,000	112	230
Harwood No. 1, .....	Slope...	Non-gas.	Natural.	16	4.6	4.3	72	2	Guibal...	Steam...	1	1	8,000	8,000	8,000	32	228
Harwood No. 2, .....	Slope...	Non-gas.	Natural.	16	4.6	4.3	72	2	Guibal...	Steam...	1	1	29,000	29,000	29,000	10	322
Harwood No. 3, .....	Slope...	Non-gas.	Natural.	16	4.6	4.3	72	2	Guibal...	Steam...	1	1	50,000	50,000	50,000	180	278
Harwood No. 4, .....	Slope...	Non-gas.	Natural.	16	4.6	4.3	72	2	Guibal...	Steam...	1	1	18,000	18,000	18,000	60	296
Harwood No. 5, .....	Slope...	Non-gas.	Natural.	16	4.6	4.3	72	2	Guibal...	Steam...	1	1	40,000	38,000	42,000	112	230
Harwood No. 6, .....	Slope...	Non-gas.	Natural.	16	4.6	4.3	72	2	Guibal...	Steam...	1	1	8,000	8,000	8,000	32	228
Harwood No. 7, .....	Slope...	Non-gas.	Natural.	16	4.6	4.3	72	2	Guibal...	Steam...	1	1	29,000	29,000	29,000	10	322
Harwood No. 8, .....	Slope...	Non-gas.	Natural.	16	4.6	4.3	72	2	Guibal...	Steam...	1	1	50,000	50,000	50,000	180	278
Harwood No. 9, .....	Slope...	Non-gas.	Natural.	16	4.6	4.3	72	2	Guibal...	Steam...	1	1	18,000	18,000	18,000	60	296
Harwood No. 10, .....	Slope...	Non-gas.	Natural.	16	4.6	4.3	72	2	Guibal...	Steam...	1	1	40,000	38,000	42,000	112	230
Upper Lehigh Coal Co.	Slope...	Non-gas.	Natural.	16	4.6	4.3	72	2	Guibal...	Steam...	1	1	8,000	8,000	8,000	32	228
Slope No. 1, .....	Slope...	Non-gas.	Natural.	16	4.6	4.3	72	2	Guibal...	Steam...	1	1	29,000	29,000	29,000	10	322
Slope No. 2, .....	Slope...	Non-gas.	Natural.	16	4.6	4.3	72	2	Guibal...	Steam...	1	1	50,000	50,000	50,000	180	278
Slope No. 3, .....	Slope...	Non-gas.	Natural.	16	4.6	4.3	72	2	Guibal...	Steam...	1	1	18,000	18,000	18,000	60	296
Slope No. 4, .....	Slope...	Non-gas.	Natural.	16	4.6	4.3	72	2	Guibal...	Steam...	1	1	40,000	38,000	42,000	112	230
Slope No. 5, .....	Slope...	Non-gas.	Natural.	16	4.6	4.3	72	2	Guibal...	Steam...	1	1	8,000	8,000	8,000	32	228
Slope No. 6, .....	Slope...	Non-gas.	Natural.	16	4.6	4.3	72	2	Guibal...	Steam...	1	1	29,000	29,000	29,000	10	322
Slope No. 7, .....	Slope...	Non-gas.	Natural.	16	4.6	4.3	72	2	Guibal...	Steam...	1	1	50,000	50,000	50,000	180	278
Slope No. 8, .....	Slope...	Non-gas.	Natural.	16	4.6	4.3	72	2	Guibal...	Steam...	1	1	18,000	18,000	18,000	60	296
Slope No. 9, .....	Slope...	Non-gas.	Natural.	16	4.6	4.3	72	2	Guibal...	Steam...	1	1	40,000	38,000	42,000	112	230
Slope No. 10, .....	Slope...	Non-gas.	Natural.	16	4.6	4.3	72	2	Guibal...	Steam...	1	1	8,000	8,000	8,000	32	228
Striping No. 1, .....	Striping...	Non-gas.	Natural.	16	4.6	4.3	72	2	Guibal...	Steam...	1	1	29,000	29,000	29,000	10	322
Striping No. 2, .....	Striping...	Non-gas.	Natural.	16	4.6	4.3	72	2	Guibal...	Steam...	1	1	50,000	50,000	50,000	180	278
Striping No. 3, .....	Striping...	Non-gas.	Natural.	16	4.6	4.3	72	2	Guibal...	Steam...	1	1	18,000	18,000	18,000	60	296
Striping No. 4, .....	Striping...	Non-gas.	Natural.	16	4.6	4.3	72	2	Guibal...	Steam...	1	1	40,000	38,000	42,000	112	230
Striping No. 5, .....	Striping...	Non-gas.	Natural.	16	4.6	4.3	72	2	Guibal...	Steam...	1	1	8,000	8,000	8,000	32	228
Striping No. 6, .....	Striping...	Non-gas.	Natural.	16	4.6	4.3	72	2	Guibal...	Steam...	1	1	29,000	29,000	29,000	10	322

\*Robbing—No air measurements taken.

C. M. Dodson and Co.									
Beaver Brook No. 6	Slope...	Non-gas.	Natural,	...	...	...	...	...	...
Beaver Brook No. 10	Slope...	Gaseous,	Fan,....	16	4.6	5	70	...	...
Beaver Brook No. 11	Slope...	Gaseous,	Fan,....	16	4.6	5	80	...	...
John S. Wentz and Co.									
Hazle Brook No. 5,	Slope...	Gaseous,	Natural,	...	...	...	...	...	...
Hazle Brook No. 6,	Slope...	Non-gas.	Natural,	...	...	...	...	...	...
Hazle Brook No. 7,	Slope...	Non-gas.	Natural,	...	...	...	...	...	...
Pond Creek Coal Co.									
Pond Creek No. 1,	Slope...	Non-gas.	Natural,	...	...	...	...	...	...
Pond Creek No. 2,	Slope...	Non-gas.	Steam	...	...	...	...	...	...
Pond Creek No. 3,	Shaft...	Non-gas.	Steam	...	...	...	...	...	...
Black Creek Coal Co.									
Rowe,	Drift...	Non-gas.	Natural,	...	...	...	...	...	...
Hartleigh,	Slope...	Non-gas.	Fan,....	4	2.6	1.3	275	...	...
M. S. Kemmerer and Co.									
Sandy Run No. 1,	Slope...	Non-gas.	Natural,	...	...	...	...	...	...
Sandy Run No. 2,	Slope...	Non-gas.	Natural,	...	...	...	...	...	...
Sandy Run No. 3,	Slope...	Non-gas.	Natural,	...	...	...	...	...	...
Sandy Run No. 4,	Slope...	Non-gas.	Natural,	...	...	...	...	...	...
Thomas Reese and Son									
Black Diamond,	Slope...	Non-gas.	Natural,	...	...	...	...	...	...
Hackleberry Coal Co.									
Hackleberry,	Tunnel,	Non-gas.	Natural,	...	...	...	...	...	...

\*Robbing—No air measurements taken.  
†Numerous cave holes prevent measurement.

†Numerous cave holes prevent measurement.

TABLE 1.—Operators, location of collieries, railroads, etc.

Names of Operators and Collieries.	County	Name of General Superintendent	Post Office	Name of Superintendent	Post Office	Railroad to Mine
Lehigh Coal and Navigation Co. Colliery No. 1, ..... Colliery No. 4, ..... Colliery No. 5, ..... Colliery No. 6, ..... Colliery No. 9, ..... Screen Building, .....	Carbon,.....	W. D. Zehner, .....	Lansford, .....	Baird Snyder, Jr., .....	Lansford, .....	C. R. R. of N. J.
G. B. Markle and Co. Jeddo No. 4 and Ebervale, ..... Highland No. 5, ..... Highland Nos. 2 and 6, .....	Luzerne, ..	John Markle, Mgr., ..	Jeddo, .....	W. H. Smith, Jr., .....	Jeddo, .....	Lehigh Valley
Lehigh Valley Coal Co. Hazleton No. 1, ..... Hazleton shaft, ..... Spring Brook, .....	Luzerne, { Luzerne, { Carbon, }	S. D. Warriner, Mgr., ..	Wilkes-Barre, .....	W. H. Davies, ....	Hazleton, .....	Lehigh Valley
Coxe Brothers and Co., Inc., Driftton Nos. 1 and 2, ..... Eckley and Buck Mountain, ..... Stockton, ..... Beaver Meadow, ..... Tomhicken, ..... Derringer and Gowan, .....	Luzerne, ..	L. C. Smith, Mgr., ..	Driftton, .....	.....	.....	D., S. and S.
A. Pardee and Co. Cranberry, ..... East Crystal Ridge, .....	Luzerne, .. Luzerne, ..	Frank Pardee, ..... Frank Pardee, .....	Hazleton, ..... Hazleton, .....	.....	.....	Lehigh Valley Lehigh Valley
Pardee Brothers and Co. Lattimer, .....	Luzerne, ..	A. W. Drake, .....	Lattimer Mines, ..	C. Pardee, Jr., ...	Lattimer Mines, ...	D., S. and S. and L. V.
Estate A. S. Van Winkle Coleraine and Evans, .....	Carbon,.....	John Harvey, .....	Hazleton, .....	.....	.....	L. V., C. R. R. of N. J. and P. and R.
Calvin Pardee and Co. Harwood, .....	Luzerne, ..	A. W. Drake, .....	Lattimer Mines, ..	C. Pardee, Jr., ...	Lattimer Mines, ..	D., S. and S.
Upper Lehigh Coal Co. Upper Lehigh, .....	Luzerne, ..	A. C. Lelsending, ....	Upper Lehigh, ....	G. W. Wilmot, ...	Upper Lehigh, ....	C. R. R. of N. J.

C. M. Dodson and Co. Beaver Brook, .....	Luzerne, ..	E. L. Bullock, .....	Audenried, .....	R. G. Russel, .....	Audenried, .....	L. V. and C. R. R. of N. J.
John S. Wentz and Co. Hazle Brook, .....	Luzerne, ..	J. S. Wentz, .....	Philadelphia, .....	John Weber, .....	Hazle Brook, .....	Lehigh Valley
Pond Creek Coal Co. Pond Creek, .....	Luzerne, ..	W. G. Thomas, .....	Pittston, .....	I. D. Thomas, .....	Zehner P. O., .....	L. V. and C. R. R. of N. J.
Black Creek Coal Co. Harleigh, .....	Luzerne, ..	James Rowe, .....	Hazleton, .....	.....	.....	Lehigh Valley
Rowe, .....	Luzerne, ..	James Rowe, .....	Hazleton, .....	.....	.....	Lehigh Valley
M. S. Kemmerer and Co. Sandy Run, .....	Luzerne, ..	M. S. Kemmerer, .....	Upper Lehigh, ....	Walter Leisenring, .....	Sandy Run, .....	C. R. of N. J.
Thomas R. Reese and Son Dusky Diamond, .....	Luzerne, ..	T. R. Reese, .....	Audenried, .....	.....	.....	L. V. and C. R. R. of N. J.
Hacklebernie Coal Co. Hacklebernie, .....	Carbon, .....	.....	Mauch Chunk, ....	.....	.....	C. R. R. of N. J.



TABLE 2.—Number of tons of coal mined, number of days worked, number of persons employed, number killed and injured, quantity of powder and dynamite used, etc.

Names of Operators and Collieries	County	Number of tons of coal shipped to market												Number of tons used at collieries for steam and heat	Number of tons sold to local trade and used by employes	Total production of coal in tons	Number of days worked. (Totals are averages, not including washeries)	Number of employees	Number of fatal accidents	Number of non-fatal accidents	Number of kegs of powder used	Number of pounds of dynamite used	Number of horses and mules
Lehigh Coal and Navigation Co.		Carbon.	323,619	21,478	2,937	352,034	245	729	2	1	2,280	76,500	98										
Colliery No. 1.	Carbon.	183,970	32,845	7,622	224,438	238	436	2	1	25	41,000	70											
Colliery No. 4.	Carbon.		1,876				205	1			33,350	34											
Colliery No. 5.	Carbon.	338,407	27,784		368,067	232	646				350	70,400	84										
Colliery No. 6.	Carbon.	230,198	24,577	11,434	266,209	247	374	2			780	32,800	56										
Screen Building.	Carbon.		17,378		17,378	246	313																
Totals.		1,081,194	125,938	21,994	1,229,126	241	2,703	5	1	4,035	254,050	342											
G. P. Markle and Co.		Luzerne.	430,862	47,426	1,370	479,618	218	906	2	7	6,885	135,647	151										
Jeddo No. 4 and Ellettsdale.	Luzerne.	326,001	47,195	52	373,248	213	608				10,004	33,718	79										
Highland No. 1.	Luzerne.	132,605	37,495	5,084	225,184	230	519	3	3	5,851	26,314	69											
Highland No. 2.	Luzerne.																						
Totals.		939,468	132,116	6,466	1,078,650	222	2,033	5	11	22,740	195,739	299											
Lehigh Valley Coal Co.		Luzerne.	250,039	51,240	58,641	359,920	238	842	1	12	10,803	84,309	77										
Hazleton No. 1.	Luzerne.	406,925	65,250	146	472,321	239	1,185	4	3	14,283	130,716	95											
Hazleton shaft.	Luzerne.																						
Spring Brook.	Carbon.	133,604	20,901	1,592	156,097	238	412		2	3,642	6,159	33											
Totals.		790,568	137,391	60,379	985,338	238	2,439	5	17	28,728	221,184	205											

Drifton Nos. 1 and 2.....	196,746	44,711	7,999	249,456	220	773	3	7	4,217	20,630	74
Lockett and Black Mountain.....	197,913	22,553	899	221,465	234	325	2	4	1,486	40,792	45
Stockton Meadow.....	.....	90	.....	90	.....	68	.....	.....	.....	.....	45
Tomblicken.....	186,368	43,205	3,452	231,805	215	412	4	1	3,612	22,597	36
Derringer and Gowan.....	266,887	29,968	5,515	242,460	263	518	2	5	5,252	10,997	66
Totals.....	787,004	140,607	17,565	945,176	220	2,115	12	18	15,685	98,305	239
A. Pardee and Co.	370,725	58,025	4,934	433,685	225	1,123	5	8	.....	.....	153
Cranberry.....	68,715	6,432	782	65,429	235	152	.....	1	10,740	172,850	20
East Crystal Ridge.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Totals.....	429,440	64,458	5,716	499,614	235	1,275	5	9	10,740	172,850	173
Pardee Brothers and Co.	399,269	45,000	5,584	449,853	258	1,102	5	10	8,600	220,700	106
Lattimer Nos. 3 and 4.....	326,418	55,962	3,000	385,980	273	914	2	7	4,500	125,200	96
Estate A. S. Van Winkle	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Coleraine and Evans.....	309,810	43,800	1,220	354,830	254	819	2	6	6,630	123,650	90
Harwood.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Colvin Pardee and Co.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Upper Lehigh.....	236,123	37,236	6,379	279,738	251	600	3	4	5,962	37,239	89
Upper Lehigh Coal Co.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
C. M. Dodson and Co.	186,242	29,067	632	215,941	225	492	1	.....	5,750	13,300	54
Beaver Brook.....	118,279	11,000	910	129,189	196	358	3	2	2,107	20,800	24
John S. Wentz and Co.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Hazle Brook.....	41,361	3,000	370	44,731	198	152	.....	.....	300	24,000	8
Pond Creek.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Pond Creek Coal Co.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Black Creek Coal Co.	14,883	3,450	2,303	20,646	261	114	.....	.....	422	3,200	6
Harleigh.....	8,139	1,675	5,322	15,136	297	47	.....	.....	314	450	10
Kowe.....	23,062	5,125	7,625	35,782	279	161	.....	.....	736	3,650	16
Totals.....	9,734	7,300	1,387	18,421	95	103	.....	1	433	24,500	18
M. S. Kemmerer and Co.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Sandy Run.....	2,809	645	5,621	9,075	302	9	.....	.....	300	220	4
Thomas R. Reese and Son	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Dusky Diamond.....	2,043	170	6,913	9,066	245	26	.....	.....	20	600	1
Hackle-bernie Coal Co.	5,680,704	888,745	122,301	6,671,490	293	15,292	48	86	117,266	1,535,457	1,764
Hackle-bernie tunnel.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Grand totals.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

†Tomblicken tonnage included with Derringer.

\*Stockton tonnage included with Beaver Meadow.

TABLE 2.—Recapitulation

Names of Operators	County	Number of tons of coal shipped to market	Number of tons used at collieries for steam and heat	Number of tons sold to local trade and used by employees	Total production of coal in tons	Average number of days worked (not including washeries).	Number of employees	Number of fatal accidents	Number of non-fatal accidents	Number of kegs of powder used	Number of pounds of dynamite used	Number of horses and mules
L. High Coal and Navigation Co., G. B. Markle and Co., Lehigh Valley Coal Co., Coxe Brothers and Co., Incorporated, A. Pardee and Co., Black Creek Coal Co., Miscellaneous companies,	Carbon, Luzerne, Luzerne, Carbon, Luzerne, Carbon, Luzerne, Luzerne, Carbon.	1,081,194 939,468 799,568 787,094 428,446 23,032 1,630,088	125,938 132,116 137,331 140,607 64,458 5,125 233,119	21,994 6,466 60,379 17,565 5,716 7,025 32,616	1,229,126 1,078,950 988,338 945,176 499,614 35,782 1,895,814	241 222 238 229 235 279 239	2,703 2,033 2,439 2,115 1,275 161 4,576	5 5 5 12 5 ..... 16	1 11 17 18 9 ..... 30	4,035 22,740 28,728 15,685 10,740 736 34,602	254,050 195,739 221,134 98,305 172,850 3,659 589,679	342 299 205 239 173 16 490
Totals,	.....	5,680,794	838,745	152,361	6,671,900	223	15,302	48	86	117,266	1,535,437	1,764

TABLE 2.—Continued

Names of Operators	County	Number of Boilers			Locomotives			Total horse power	Number of steam engines of all classes	Total horse power	Number of pumps delivering water to surface	(Capacity in gallons per minute	Quantity delivered to surface per minute—gallons	Number of electric dynamos	Number of air compressors
		(Cylindrical	Horse power	Tubular	Horse power	Total horse power	Steam	Air	Electric						
Lehigh Coal and Navigation Co., .....	Carbon, .....	20	528	71	12,178	12,706	17	.....	156	4,096	7	10,115	6,940	1	2
G. B. Markle and Co., .....	Luzerne, .....	15	600	52	7,710	8,310	12	6	85	5,739	9	8,821	5,221	2	1
Lehigh Valley Coal Co., .....	Luzerne and Carbon, .....	46	1,350	40	6,040	7,420	13	.....	65	6,340	15	13,660	7,200	1	.....
Coxe Brothers and Co., Inc., .....	Carbon, .....	30	1,100	59	11,575	12,675	20	7	98	5,658	21	20,500	14,650	3	8
A. Pardo and Co., .....	Luzerne, .....	38	1,140	17	3,635	4,775	11	.....	39	5,155	15	23,100	7,600	.....	1
Pardee Brothers and Co., * .....	Luzerne, .....	12	240	13	2,455	2,695	11	.....	28	3,335	.....	.....	.....	1	2
Essex Coal Co., .....	Carbon, .....	27	405	27	3,070	3,475	6	.....	42	1,384	9	10,217	5,108	1	.....
Calvin Pardee and Co., .....	Luzerne, .....	.....	.....	12	1,800	1,800	5	.....	27	1,265	9	8,600	4,000	1	1
Upper Lehigh Coal Co., .....	Luzerne, .....	70	2,210	11	1,090	3,300	4	.....	54	1,216	12	12,150	4,950	.....	.....
C. M. Dodson and Co., .....	Luzerne, .....	12	306	16	2,060	2,366	1	.....	19	800	8	9,000	4,000	1	.....
John S. Wentz and Co., .....	Luzerne, .....	.....	.....	3	1,350	1,350	1	.....	10	450	3	1,900	1,900	.....	.....
Pond Creek Coal Co., .....	Luzerne, .....	.....	.....	.....	1,350	1,350	1	.....	5	300	3	1,500	500	.....	.....
Black Creek Coal Co., .....	Luzerne, .....	.....	.....	.....	338	338	1	.....	6	200	1	520	180	.....	.....
M. S. Kemmerer and Co., .....	Luzerne, .....	6	240	2	240	440	1	.....	7	225	1	1,000	1,000	.....	.....
Thomas R. Reese and Son, .....	Luzerne, .....	.....	.....	.....	90	90	.....	.....	2	60	.....	.....	.....	.....	.....
Hackleberry Coal Co., .....	Carbon, .....	.....	.....	1	40	40	.....	.....	1	35	.....	.....	.....	.....	.....
Totals, .....	.....	276	8,143	340	54,111	62,254	106	13	644	36,178	113	121,183	66,259	11	21

\*Jeddo tunnel drainage.





Foxe Brothers and Co., Inc.		2	1	3	154	17	31	15	7	.....	104	334	1	1	45	26	12	27	11	316	439	773
Drifton Nos. 1 and 2, .....	Luzerne, ..	1	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Black and Buck Mountain, .....	Luzerne, ..	1	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Stearns Meadow, .....	Carbon, ..	1	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Beaver Meadow, .....	Luzerne, ..	1	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Tomblick, .....	Luzerne, ..	1	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Boring and Gowan, .....	Luzerne, ..	2	2	3	190	12	34	10	7	.....	89	355	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Totals, .....		8	5	6	559	53	101	35	16	13	392	1,188	1	4	71	94	30	132	14	531	927	2,115
A. Pardee and Co.																						
Cranberry, .....	Luzerne, ..	3	3	4	319	174	55	35	11	31	47	682	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
East Crystal Ridge, .....	Luzerne, ..	1	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Totals, .....		4	4	4	376	211	68	39	15	35	51	807	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Pardee Brothers and Co.																						
Lattimer Nos. 3 and 4, .....	Luzerne, ..	1	10	1	225	204	44	13	.....	.....	30	23	551	.....	.....	.....	.....	.....	.....	.....	.....	.....
Estate A. S. Van Winkle																						
Coleraine and Evans, .....	Carbon, .....	4	1	2	176	193	35	2	12	73	4	502	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Calvin Pardee and Co.																						
Harwood, .....	Luzerne, ..	1	6	1	192	146	44	2	10	27	51	480	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Upper Lehigh Coal Co.																						
Upper Lehigh, .....	Luzerne, ..	2	3	.....	100	95	27	11	5	13	.....	261	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
C. M. Dodson and Co.																						
Beaver Brook, .....	Luzerne, ..	1	2	1	100	123	24	8	9	14	18	300	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
John S. Wentz and Co.																						
Hazle Brook, .....	Luzerne, ..	1	1	.....	95	40	22	3	6	20	17	205	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Pond Creek Coal Co.																						
Pond Creek, .....	Luzerne, ..	1	.....	.....	28	42	12	2	2	11	1	99	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Black Creek Coal Co.																						
Harleigh, .....	Luzerne, ..	1	.....	.....	22	5	5	.....	2	.....	26	61	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Rowe, .....	Luzerne, ..	1	.....	.....	7	.....	3	.....	.....	.....	7	18	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Totals, .....		2	.....	.....	29	5	8	.....	2	.....	33	79	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
M. S. Kemmerer and Co.																						
Sandy Run, .....	Luzerne, ..	1	.....	.....	18	8	3	1	1	3	10	45	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Thomas R. Reese and Son																						
Dusky Diamond, .....	Luzerne, ..	1	.....	.....	2	3	.....	.....	.....	.....	.....	6	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Hacklebarne Coal Co.																						
Hacklebarne tunnel, .....	Carbon, .....	1	1	.....	4	4	2	.....	.....	5	.....	17	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Grand totals, .....		47	53	50	3,629	2,114	720	237	122	569	1,580	9,121	13	30	352	708	945	750	74	3,309	6,181	15,302

TABLE 3.—Recapitulation

Names of Operators	County	Inside										Outside										(Grand totals inside and outside)	
		Mine foremen	Assistant mine foremen	Pit bosses and assistants	Miners	Miners' laborers	Drivers and runners	Door boys and helpers	Pumpmen	Company men	All other employes	Total inside	Superintendents	Foremen	Blacksmiths and carpenters	Engineers and firemen	Slate pickers (boys)	Slate pickers (men)	Book-keepers and clerks	All other employes	Total outside		
Lehigh Coal and Navigation Co., Lehigh Valley Coal Co., Lehigh Valley Coal Co., Coke Brothers and Co., Inc., A. Parke and Co., Black Creek Coal Co., Miscellaneous companies, Carbon.	Carbon, Luzerne, Carbon, Carbon, Luzerne, Luzerne, Luzerne, Carbon.	9	7	18	399	177	133	60	10	247	384	1,414	...	7	38	161	289	243	7	544	1,289	2,703	
		1	13	3	589	421	112	41	12	73	296	1,474	...	3	34	66	100	50	4	249	559	2,033	
		6	...	14	767	389	85	20	22	...	390	1,693	...	3	37	70	131	53	8	444	746	2,439	
		8	5	6	559	53	101	35	16	13	392	1,188	1	4	71	94	30	132	14	581	927	2,115	
		4	4	4	376	211	68	39	15	35	51	807	...	1	38	59	48	39	3	280	468	1,275	
		2	...	...	29	5	8	...	2	...	33	79	1	2	5	6	31	...	1	36	82	161	
		14	24	5	940	858	213	42	45	291	124	2,466	8	10	129	252	316	233	37	1,125	2,110	4,576	
Totals,		47	52	50	3,629	2,114	729	237	122	569	1,580	9,121	13	30	352	708	945	750	74	3,309	6,181	15,392	



TABLE 4.—Fatal accidents inside and outside of mines

Date of accident	Name of Person	Nationality	Occupation	Age	Married or single	Number of widows	Number of orphans	Name of Mine	County	Nature and Cause of Accident in Brief
Jan. 23	Casimer Baker, .....	Polish, .....	Miner, .....	58	M.	1	.....	Cranberry, .....	Luzerne, ...	Instantly killed by fall of rock in breast.
Feb. 2	Martin Spitzer, .....	American, ..	Driver, .....	17	S.	.....	.....	Hazleton shaft, .....	Luzerne, ...	Instantly killed; run over by loaded car.
4	John Melish, .....	Hungarian, ..	Miner, .....	27	S.	.....	.....	Hazleton No. 1, .....	Luzerne, ...	Instantly killed by fall of rock in gangway.
4	Joseph Hitchcock, .....	Polish, .....	Door boy, .....	16	S.	.....	.....	Lansford No. 4, .....	Carbon, ...	Fatally injured; run over by empty car on gangway.
12	John Miazgar, .....	Slavonian, ..	Miner, .....	22	M.	1	.....	Lattimer, .....	Luzerne, ...	Fatally injured by explosion of dynamite.
16	Joseph Bower, .....	American, ..	Miner, .....	31	M.	1	4	Hazle Brook, .....	Luzerne, ...	Instantly killed by fall of coal from face of breast.
22	John Bouchman, .....	American, ..	Driver, .....	44	S.	.....	.....	Upper Lehigh, .....	Luzerne, ...	Fatally injured; run over by cars. Died October 31.
26	John Levandoskie, .....	Polish, .....	Laborer, .....	45	S.	.....	.....	Highland No. 2, .....	Luzerne, ...	Fatally injured by fall of coal from pillar.
26	Frank Maloney, .....	Irish, .....	Laborer, .....	28	M.	1	.....	Drifton No. 1 stripping, .....	Luzerne, ...	Fatally scalded by steam from boiler explosion. Outside.
26	Emert Pasiko, .....	Hungarian, ..	Laborer, .....	27	M.	1	.....	Drifton No. 1 stripping, .....	Luzerne, ...	Fatally injured by falling down slope.
March 19	John Newell, .....	Slovakian, ..	Laborer, .....	21	M.	1	1	Hazle Brook, .....	Luzerne, ...	Fatally injured by fall of coal in crosscut.
24	Michael Chinko, .....	Hungarian, ..	Miner, .....	38	M.	1	.....	Beaver Meadow, .....	Carbon, ...	Fatally injured by a fall of frozen material from slate bank. Outside.
25	Philip Spina, .....	Italian, .....	Laborer, .....	60	M.	1	.....	Coleraine, .....	Carbon, ...	Instantly killed by fall of coal in breast.
26	Peter Kennedy, .....	Irish, .....	Miner, .....	38	M.	1	8	Lansford No. 5, .....	Carbon, ...	Instantly killed by a fall of coal in breast.
April 26	John Ogurick, .....	Polish, .....	Miner, .....	38	M.	1	.....	Cranberry, .....	Luzerne, ...	Instantly killed by a fall of coal in breast.
May 26	Andrew McHugh, .....	Irish, .....	Miner, .....	52	M.	1	1	Hazle Brook, .....	Luzerne, ...	Instantly killed by being whirled around a shaft in breaker. Outside.
3	Toney Caput, .....	Italian, .....	Oiler, .....	23	M.	1	.....	.....	.....	Instantly killed by fall of coal in breast.
June 7	Breno Kirka, .....	Polish, .....	Laborer, .....	21	S.	.....	.....	Hazleton shaft, .....	Luzerne, ...	Instantly killed by fall of coal in breast.
16	Andrew Croopa, .....	American, ..	Patcher, .....	17	S.	.....	.....	Beaver Meadow, .....	Carbon, ...	Instantly killed by being squeezed between car and rib.
16	Frank Thrash, .....	American, ..	Laborer, .....	39	S.	.....	.....	Eckley and Buck Mt. stripping, .....	Luzerne, ...	Fatally injured. Caught between bumpers of cars. Outside.
23	John Zaramber, .....	Polish, .....	Miner, .....	25	M.	1	.....	Harwood, .....	Luzerne, ...	Fatally burned by an explosion of powder.
July 6	Joseph Pasaga, .....	Polish, .....	Door boy, .....	16	S.	.....	.....	Lansford No. 4, .....	Carbon, ...	Fatally injured by being thrown against rib by a concussion of air.
23	Mike Shutyaek, .....	Hungarian, ..	Laborer, .....	32	M.	1	.....	Eckley stripping, .....	Luzerne, ...	Fatally injured; run over by stripping car on top of plane. Outside.

28	Stanly Onoscavage, ..	Polish, .....	Laborer, .....	30	S. ....	Highland No. 2, .....	Luzerne, .....	Fatally injured by a piece of rock falling, striking his abdomen.
29	George Wnisk, .....	Polish, .....	Miner, .....	42	M. 1 1 7	Ellevale, .....	Luzerne, .....	Suffocated by rush of coal in breast.
Aug.	George Hurwat, .....	Hungarian, .....	Laborer, .....	32	M. 1 1	Evans-Coleraine, .....	Carbon, .....	Instantly killed by rush of coal from pillar.
22	John Witkowski, .....	Polish, .....	Miner, .....	48	M. 1 2	Gowan Nos. 1 and 3, .....	Luzerne, .....	Instantly killed by fall of slate.
26	Frank Kossick, .....	Slavonian, .....	Laborer, .....	24	M. 1 1	Upper Lehigh, .....	Luzerne, .....	Fatally injured by a log rolling upon him. Outside.
27	James Boyle, .....	American, .....	Laborer, .....	20	S. ....	Lansford No. 9, .....	Carbon, .....	Fatally burned by an explosion of powder. Suffocated in cave on stripping. Outside.
31	Cornelius Boyle, .....	American, .....	Ass't forman, .....	35	M. 1 3	Beaver Meadow, .....	Carbon, .....	Instantly killed by falling down shaft.
Sept.	John Yackamovich, ..	Polish, .....	Laborer, .....	20	S. ....	Hazleton shaft, .....	Luzerne, .....	Fatally injured by fall of bone in breast.
10	Charles Pierce, .....	Polish, .....	Miner, .....	38	M. 1	Beaver Brook, .....	Luzerne, .....	Instantly killed by cars at foot of plane. Outside.
15	John Morasick, .....	Hungarian, .....	Driver, .....	21	S. ....	Beaver Meadow, .....	Carbon, .....	Outside.
22	George Kleram, .....	Slavonian, .....	Laborer, .....	21	S. ....	Upper Lehigh, .....	Luzerne, .....	Fatally injured by falling under cars. Outside.
22	George Drasher, Jr., ..	American, .....	Miner, .....	23	S. ....	Lattimer, .....	Luzerne, .....	Fatally injured by fall of slate.
29	John Szakola, .....	Slavonian, .....	Miner, .....	20	S. ....	Lattimer, .....	Luzerne, .....	Fatally injured by falling down abandoned breast.
Oct.	1 Frank Kilinski, .....	Polish, .....	Miner, .....	33	S. ....	Drifton No. 2, .....	Luzerne, .....	Fatally injured by fall of coal on gangways.
4	John Keminski, .....	Polish, .....	Patcher, .....	17	S. ....	Highland No. 2, .....	Luzerne, .....	Fatally injured between derailed car and props.
13	Enoch Stanovish, .....	Russian, .....	Miner, .....	35	S. ....	Cranberry, .....	Luzerne, .....	Fatally injured by shot which he thought had missed fire.
Nov.	9 Hiram Rimbach, .....	American, .....	Miner, .....	58	M. 1	Gowan slope No. 4, ..	Luzerne, .....	Instantly killed by fall of slate in breast.
18	Peter Burke, .....	American, .....	Miner, .....	28	S. ....	Lattimer, .....	Luzerne, .....	Fatally injured by falling down breast. manway.
26	Chas. Harman, .....	Polish, .....	Miner, .....	52	S. ....	Cranberry, .....	Luzerne, .....	Instantly killed by fall of coal in breast.
30	Alois Wildtz, .....	Austrian, .....	Miner, .....	26	M. 1 2	Tonhicklen, .....	Luzerne, .....	Fatally injured by fall of coal in breast.
Dec.	4 Henry Heiser, .....	German, .....	Miner, .....	52	M. 1 3	Harwood, .....	Luzerne, .....	Instantly killed by fall of rock.
19	John Slapots, .....	Hungarian, .....	Miner, .....	41	M. 1 5	Lattimer, .....	Luzerne, .....	Instantly killed by returning to what he supposed to be a shot that had missed.
12	Mike Linchofski, .....	Polish, .....	Miner, .....	33	M. 1 2	Jeddo No. 4, .....	Luzerne, .....	Fatally injured by fall of coal.
24	Herman Dorsch, .....	American, ..	Driver, .....	18	S. ....	Hazleton shaft, .....	Luzerne, .....	Fatally injured by fall of coal. car.
28	George W. Shelby, .....	American, ..	Company man, ..	56	M. 1	Lansford No. 9, .....	Carbon, .....	Fatally injured by fall of frozen material on stripping. Outside.



TABLE 5.—Non-fatal accidents inside and outside of mines

Date of accident	Name of Person	Nationality	Occupation	Age	Married or single	Name of Mine	County	Nature and Cause of Accident in Brief
Jan. 7	Thomas Hutcheson, ..	American, ..	Driver, .....	18	S.	E. Crystal Ridge, .....	Luzerne, ..	Leg fractured by piece of coal that rolled down chute, by piece of coal that fell from Outside.
13	Valentine Kowitski, ..	Polish, .....	Laborer, .....	40	M.	Eckley, .....	Luzerne, ..	Hand lacerated by explosion of dynamite cap.
19	Frank Cook, .....	Polish, .....	Miner, .....	39	M.	Hazleton No. 1, .....	Luzerne, ..	Face and hands burned by explosion of gas in chute.
23	Chas. Habor, .....	Polish, .....	Laborer, .....	30	M.	Hazleton No. 1, .....	Luzerne, ..	Spine fractured by fall of slate in gangway.
25	Pasqual Nova, .....	Italian, .....	Laborer, .....	27	M.	Hazleton No. 1, .....	Luzerne, ..	Pelvis fractured and internal injuries; part of pump slid against him. Outside.
26	Domenico Dinicco, ....	Italian, .....	Miner, .....	43	M.	Lattimer, .....	Luzerne, ..	Face, neck and hands burned by explosion of gas.
Feb. 11	Andrew Harcharick, ..	Hungarian, ..	Miner, .....	33	M.	Gowan No. 4, .....	Luzerne, ..	Ear and right hand burned by an explosion of gas.
15	Henry Stark, .....	Slavonian,...	Laborer, .....	28	S.	Gowan No. 4, .....	Luzerne, ..	Breast injured by flying coal from shot when heading blew through.
19	Patrick Malloy, .....	American, ..	Miner, .....	26	M.	Sandy Run, .....	Luzerne, ..	Arm fractured by piece of coal that rolled down back.
20	Thomas Boyle, .....	Irish, .....	Miner, .....	51	M.	Stockton, .....	Luzerne, ..	Face, neck, arms and left side burned by an explosion of powder.
29	Frank Dougherty, .....	Irish, .....	Miner, .....	48	M.	Highland No. 2, .....	Luzerne, ..	Scalded by steam from a boiler explosion. Outside.
29	Suber Pluton, .....	Hungarian, ..	Engineer, .....	21	S.	Drifton No. 1 stripping, .....	Luzerne, ..	Arm fractured and lacerated scalp by falling from plank in stable, a distance of six feet. Outside.
29	Mike Harbosh, .....	Hungarian, ..	Laborer, .....	37	M.	Drifton No. 1 stripping, .....	Luzerne, ..	Collar bone fractured and foot crushed by fall of coal.
March 23	George Schron, .....	German, .....	Stable boss, .....	19	S.	Hazleton No. 1, .....	Luzerne, ..	Leg fractured by falling while pulling sheet iron.
15	Mike Stokal, .....	Polish, .....	Miner, .....	62	M.	Harwood, .....	Luzerne, ..	Head and face cut by flying coal from shot.
25	Levi Samler, .....	American, ..	Miner, .....	21	S.	Coleraine, .....	Carbon, ....	
29	John Bangas, .....	Hungarian, ..	Miner, .....	32	M.	Drifton No. 2, .....	Luzerne, ..	
				36	M.			

April	29	Adam Koudrack, .....	Polish, .....	Laborer, .....	22	S.	Harwood, .....	Luzerne, ..	Contused back and lacerated hand by fall of coal.
	7	Anthony Plaplus, .....	Polish, .....	Miner, .....	43	M.	Hazleton shaft, .....	Luzerne, ..	Eye blown out and face lacerated by exploding a shot while drilling the tamping from a shot that had missed.
	15	James Zamanski, .....	Hungarian, .....	Miner, .....	40	S.	Spring Brook, .....	Carbon, ....	Both legs fractured by a fall of rock in breast.
	21	Metro Kopshinski, .....	Polish, .....	Laborer, .....	30	S.	Highland No. 2, .....	Luzerne, ....	Lacerated forehead and ankle sprained by fall of slate.
May	25	John Breslin, .....	American, ..	Door boy, .....	16	S.	Cranberry, .....	Luzerne, ..	Arm fractured between cars.
	26	Wm. McKinley, .....	American, ..	Laborer, .....	18	S.	Drifton No. 1, .....	Luzerne, ..	Collar bone fractured and bruised about body by flying coal from shot.
	30	Philip Reiss, .....	American, ..	Pumpman, .....	28	S.	Coleraine, .....	Carbon, ....	Leg fractured by falling from truck that jumped the track on slope.
	4	Mike Lickwar, .....	Hungarian, ..	Miner, .....	38	M.	Ebervale, .....	Luzerne, ..	Contused shoulder and audomen by fall of coal.
	4	Chas. Riter, .....	American, ..	Miner, .....	31	S.	Lattimer, .....	Luzerne, ..	Face and hands burned by gas.
	12	Joseph Dugan, .....	American, ..	Driver, .....	17	S.	Coleraine, .....	Carbon, ....	Leg fractured between spreader and timber when cars went one way and mules another.
	14	Ludwig Gatowski, .....	Russian, ....	Miner, .....	44	M.	Cranberry No. 5, .....	Luzerne, ..	Left arm fractured by premature blast.
	14	Eugene Bonner, .....	American, ..	Loco. patcher, ..	21	S.	Drifton No. 2, .....	Luzerne, ..	Foot crushed by having it caught in switch and front wheel of car running over it. Outside.
	16	Geo. McNofski, .....	Slavonian, ..	Laborer, .....	23	S.	Highland No. 2, .....	Luzerne, ..	Collar-bone broken by falling over a prop in breast.
	16	Josiah Gicking, .....	American, ..	Machinist, .....	42	M.	Cranberry, .....	Luzerne, ..	Wrist fractured by falling from platform when it broke. Outside.
	16	John Durkin, .....	American, ..	Machinist, .....	22	S.	Cranberry, .....	Luzerne, ..	Foot bruised and toe fractured in above accident. Outside.
	16	George Stragnick, .....	Slavonian, ..	Machinist, .....	33	M.	Cranberry, .....	Luzerne, ..	Head lacerated in above accident. Outside.
June	16	Bartel Martine, .....	Austrian, ..	Miner, .....	26	S.	Hazleton No. 1, .....	Luzerne, ..	Leg fractured by fall of rock.
	23	John Gordon, .....	Hungarian, ..	Driver, .....	19	S.	Coleraine, .....	Carbon, ....	Abdomen contused; squeezed between cars.
	24	John Reinock, .....	American, ..	Driver, .....	17	S.	Jeddo No. 4, .....	Luzerne, ..	Leg fractured between cars.
	27	John Adamcheck, .....	Polish, .....	Miner, .....	39	M.	Hazleton shaft, .....	Luzerne, ..	Leg crushed by fall of coal in breast.
	1	Peter Telepcheck, .....	Hungarian, ..	Patcher, .....	19	S.	Spring Brook, .....	Carbon, ....	Leg fractured; struck by rope on slope.
	3	Casper Petruski, .....	Polish, .....	Laborer, .....	34	M.	Cranberry, .....	Luzerne, ..	Leg fractured; struck by piece of blast.
	3	Anthony Bedner, .....	Polish, .....	Driver, .....	19	S.	Lattimer, .....	Luzerne, ..	Skull fractured between door frame and top of car.
	9	Anthony Cole, .....	Italian, .....	Miner, .....	31	M.	Hazle Brook, .....	Luzerne, ..	Leg fractured by piece of slate in battery.
	22	Joe Stevens, .....	English, ....	Miner, .....	58	M.	Hazle Brook, .....	Luzerne, ..	Foot crushed and back bruised by fall of slate in gangway.
	23	Andrew Arnetcavish, ..	Polish, .....	Laborer, .....	30	M.	Hazle Brook, .....	Luzerne, ..	Face, neck and hands burned by an explosion of powder.
	23	Joseph Anducas, .....	Polish, .....	Laborer, .....	26	S.	Hazle Brook, .....	Luzerne, ..	Face, neck and hands burned by an explosion of powder.
	1	Henry Horrox, .....	English, ....	Mine foreman, ..	57	M.	Jeddo No. 4, .....	Luzerne, ..	Arm crushed between car and roof.
July	15	Mike Mioka, .....	Polish, .....	Miner, .....	50	M.	Highland No. 5, .....	Luzerne, ..	Leg fractured between cars.
	19	Peter Artusco, .....	Italian, .....	Laborer, .....	31	S.	Lattimer, .....	Luzerne, ..	Both legs fractured by fall of clay in stripping. Outside.
	21	August Morningstar, ..	Polish, .....	Miner, .....	33	M.	Ebervale, .....	Luzerne, ..	Arm fractured by fall of coal while in the act of barring.

TABLE 5.—Continued

Date of accident	Name of Person	Nationality	Occupation	Age	Married or single	Name of Mine	County	Nature and Cause of Accident in Brief
Aug.	9 Lewis Pangrazi, .....	Austrian, .....	Miner, .....	34	M.	Gowan No. 4, .....	Luzerne, ..	Leg fractured by fall of coal while trimming after shot.
	11 George Dubosh, .....	Hungarian, .....	Laborer, .....	26	M.	Coleraine, .....	Carbon, ....	Head and face lacerated by flying coal from shot.
	22 John Novack, .....	Hungarian, .....	Laborer, .....	34	M.	Gowan Nos. 1 and 3, ..	Luzerne, ..	Back injured and head cut by fall of slate in breast.
	23 George Chren, .....	Hungarian, .....	Laborer, .....	33	M.	Gowan Nos. 1 and 3, ..	Luzerne, ..	Shoulder bruised and head cut by a fall of slate in breast.
	25 Joseph Fragale, .....	Italian, .....	Miner, .....	44	M.	Lattimer, .....	Luzerne, ..	Face lacerated and rib fractured by premature blast.
	26 George Medywitys, ....	Hungarian, .....	Laborer, .....	41	M.	Hazleton No. 1, .....	Luzerne, ..	Small bone in leg fractured between ears. Outside.
Sept.	6 Wm. Goldsworthy, ....	American, ..	Miner, .....	33	M.	Hazleton No. 1, .....	Luzerne, ..	Face, neck and hands burned by gas.
	8 Jacob Stubnes, .....	Lithuanian, ..	Laborer, .....	27	S.	Hazleton No. 1, .....	Luzerne, ..	Face, neck and hands burned by gas.
	22 Mike Ben, .....	Slavonian, ..	Driver, .....	18	S.	Upper Lehigh, .....	Luzerne, ..	Ribs fractured by car striking him, knocking him down.
	26 Neal Johnson, .....	American, ..	Miner, .....	54	M.	Drifton No. 2, .....	Luzerne, ..	Skull fractured by fall of rock from rib cage.
Oct.	4 Frank Cosa, .....	Italian, .....	Skinner, .....	26	S.	Hazleton No. 1, .....	Luzerne, ..	Shoulder fractured by falling from rock chute in breaker. Outside.
	5 Daniel Ferry, .....	Irish, .....	Miner, .....	42	M.	Upper Lehigh, .....	Luzerne, ..	Eye blown out by explosion of Duatin caps. Outside.
	7 Joseph Wallo, .....	American, ..	Driver, .....	18	S.	Eckley, .....	Luzerne, ..	Leg fractured by mule stepping on him. Outside.
	7 Peter Leitner, .....	American, ..	Driver, .....	19	S.	Cranberry No. 4, .....	Luzerne, ..	Leg fractured by being run over by a rock car. Outside.
	19 Joseph Regula, .....	Polish, .....	Laborer, .....	27	S.	Cranberry No. 1, .....	Luzerne, ..	Leg fractured by fall of slate.
	22 John Reich, .....	American, ..	Carpenter, .....	57	M.	Hazleton No. 1, .....	Luzerne, ..	Leg fractured. Struck by elevator bucket that came over sprocket wheel. Outside.
	24 James McCann, .....	American, ..	Clerk, .....	27	S.	Hazleton No. 1, .....	Luzerne, ..	Arm fractured. Struck by a brake iron on gondola. Outside.
Nov.	1 John Housack, .....	Lithuanian, ..	Company man, ..	39	S.	Upper Lehigh, .....	Luzerne, ..	Scalp wounds and contusions of body by falling down shaft, a distance of 28 feet.
	1 Anthony Lipinski, ....	Hungarian, ..	Company man, ..	41	S.	Upper Lehigh, .....	Luzerne, ..	

17	John Stouka, .....	Slavonian, .....	Slate picker, .....	23	S.	Eckley, .....	Luzerne, ..	Eye injured, sight lost, by flying piece of steel from cutter. Outside.
21	Philip Vek, .....	Polish, .....	Miner, .....	33	S.	Evans-Coleraine, .....	Carbon, ....	Hand blown off by an explosion of dynamite.
28	Louis Goblick, .....	Hungarian, .....	Miner, .....	23	S.	Coleraine, .....	Carbon, ....	Collar bone fractured by fall of coal.
30	Francesco Taurino, .....	Italian, .....	Jack man, .....	27	M.	Harwood, .....	Luzerne, ..	Leg fractured by piece of casting falling on him on stripping. Outside.
30	William Costello, .....	American, ..	Miner, .....	33	S.	Lattimer, .....	Luzerne, ..	Leg fractured by being knocked down breast by rush of coal.
30	Charles Mulhearn, .....	American, ..	Driver, .....	22	S.	Jeddo No. 4, .....	Luzerne, ..	Leg fractured by being kicked by mule.
30	Andrew Lazure, .....	Hungarian, ..	Bottom man, ..	20	M.	Beaver Meadow, .....	Carbon, ....	Foot fractured between bumpers of cars Outside.
6	Joseph Petalis, .....	Russian, .....	Laborer, .....	20	S.	Harwood, .....	Luzerne, ..	Thigh fractured by fall of coal.
8	Aniello Defulvio, .....	Italian, .....	Laborer, .....	28	M.	Lattimer, .....	Luzerne, ..	Fractured clavicle. Struck by car. Outside.
10	Anton Weligko, .....	Russian, .....	Laborer, .....	25	S.	Lattimer, .....	Luzerne, ..	Lacerations about face and breast by flying coal from shot.
10	Joseph Steffo, .....	Polish, .....	Miner, .....	34	S.	Lansford No. 4, .....	Carbon, ....	Eye blown out and fingers blown off by explosion of dynamite caps.
12	Joseph Simanski, .....	Polish, .....	Laborer, .....	25	S.	Jeddo No. 4, .....	Luzerne, ..	Muscles of right leg sprained by fall of coal.
20	Neal Ward, .....	Irish, .....	Miner, .....	33	S.	Hazleton No. 1, .....	Luzerne, ..	Small bone in leg fractured by fall of coal.
21	Elitha Day, .....	Welsh, .....	Miner, .....	36	M.	Lattimer, .....	Luzerne, ..	Face, neck and hands burned by explosion of gas.
21	Anthony Smith, .....	Hungarian, ..	Miner, .....	38	M.	Ebervale, .....	Luzerne, ..	Ribs fractured and face lacerated by flying coal from shot.
27	Philip Huston, .....	Polish, .....	Miner, .....	23	S.	Hazleton shaft, .....	Luzerne, ..	Leg fractured by fall of coal while timbering heading.
29	John Knyrim, .....	American, ..	Ticket boss, .....	20	S.	Eckley, .....	Luzerne, ..	Foot crushed by car. Outside.
29	Boleslaw Holochurst, .....	Polish, .....	Miner, .....	29	M.	Lattimer, .....	Luzerne, ..	Face and hands burned by an explosion of fire damp.

Dec.



## Boiler Explosion at Driften No. 1 Colliery, of Coxe Brothers and Company, Incorporated

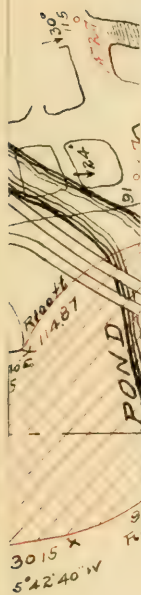
The most serious accident of the year was an explosion that occurred February 29, at Driften No. 1 stripping of Fred. M. Cuyle, who is stripping the Mammoth vein for Coxe Brothers and Company, Incorporated, by which Frank Maloney, Irish laborer, and Emery Pasko, Hungarian, laborer, were fatally scalded, and Frank Dougherty, Sober Pluton and Mike Harbosh were seriously scalded. On the morning of date of accident these men, with several others, had gathered in the boiler house to keep warm. There were in the boiler house three upright boilers, all connected together. Between Saturday and Monday some one closed the valve on main steam line on account of no necessity for much steam during this time. On the following Monday morning the boilers were fired up for work, and the valve being closed between the second and third boiler it would not allow the steam from the third boiler to escape into the other two, and it seems that no one looked at the steam gauge of the third boiler to see what pressure was on it, on account of being under the impression that the same pressure was on all three boilers. The safety valve on the boiler that exploded had been allowed to corrode and would not release the extra pressure with the valve closed, and this caused the explosion, with result as above stated. The accident was referred to a coroner's jury, which was unable to determine who closed the valve. These men, with the exception of one, had no business in the boiler house, as the contractor had provided a shanty for them to go in out of the storm, and had they used this shanty instead of going to boiler house they would not have been in any danger—and perhaps that was the reason the fireman did not watch the steam gauge.

## BOUNDARY PILLAR AGREEMENT BETWEEN G. B. MARKLE AND COMPANY AND THE POND CREEK COAL COMPANY

Office of the Inspector of Coal Mines,  
Ninth Anthracite District,  
Hazleton, Pa., March 4, 1904.

In compliance with Section X, Article III, Anthracite Mine Laws of Pennsylvania, passed and approved in 1891, the Engineers of the adjoining properties, viz., lands leased by G. B. Markle & Company, from the Highland Coal Company, on the westerly side and lands leased by the Pond Creek Coal Company, from Ziba Fairchilds and others on the Easterly side, respectively, have met at the call of the State Mine Inspector of the Ninth Anthracite District, David J. Roderick, to determine the size and location of the boundary line pillars to be left in the several veins at the easterly line of the Richard Spark tract.





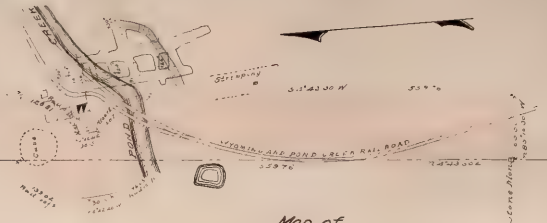
POND CREEK COAL CO., LESSEES

G. B. MARKLE & CO., LESSEES

J. A. Aigue  
Engr. for G. B. Markle & Co.

W. Smith, Esq.  
Engr. P. C. C. Co.

David A. Patrick.  
Mine Inspector.



Map of  
Mine Workings in "A" Vein  
and  
Barrier Pillar in All Veins  
Except "B" Vein  
At the Easterly Line of the  
Richard Spark Tract  
Scale 1"=100' Mar. 4, 1904.



POND CREEK COAL CO. LESSEES

G B MARKLE & CO. LESSEES

J. L. Braigu  
Engr. for G.B. Markle & Co.

Witnessed by

Eng. J. L. Braigu

Wm. S. L. Lick

Mine Inspector

WORKINGS  
OF  
H. S. KEMMER & CO  
SHOWN AS REBIDDEN

WORKINGS  
OF  
POND CREEK COAL CO

WORKING AND POND CREEK RAILROAD

Stone Mon. 10000  
ME 65° 16' 30" W

Map of  
Mine Workings  
and  
Barrier Pillar to be left  
In "B" Vein

At the Easterly Line of the  
Richard Spark Tract

Scale 1"=100' Mar. 4, 1904

The undersigned hereby agree to leave a pillar of one hundred feet in thickness along the line of the Pond Creek Coal Company's workings in the "A" vein, as indicated on the accompanying tracing, which is an exact copy of a duplicate survey made by J. S. Craigue for G. B. Markle & Company and H. S. Smith for the Pond Creek Coal Company.

The pillar in the "B" vein shall be one hundred (100) feet thick, the Easterly side to follow along the workings of the Pond Creek Coal Company and its predecessors, as shown on the tracing attached, which is an exact copy of a duplicate made by J. S. Craigue for G. B. Markle & Company and H. S. Smith for the Pond Creek Coal Company, as far as the Southerly Basin is concerned, and along the workings of M. S. Kemmerer & Company in the Northerly Basin, as shown on map in possession of the Mine Inspector.

The pillar to be left in all other veins shall conform in size and location to that shown upon tracing for "A" vein.

It is also agreed by G. B. Markle & Company that inasmuch as the pillar in the "A" vein does not directly underlie the pillar in the "B" vein, they will leave a sufficient amount of solid coal in the "A" vein under the old workings of M. S. Kemmerer & Company to insure perfect safety.

It is further understood that the authority of the Mine Inspector for the safety of the men working in the two adjoining mines shall in no way be interfered with by the above agreement.

Maps of Barrier Pillar in "B" vein and Barrier Pillar in all veins, except "B" vein, are hereto attached and made part of this agreement.

DAVID J. RODERICK,

Inspector of Mines.

W. H. SMITH,

Genl. Supt. for G. B. Markle & Co.

H. S. SMITH,

Eng. for the Pond Creek Coal Co.

#### BOUNDARY PILLAR AGREEMENT BETWEEN JOHN S. WENTZ AND COMPANY AND COXE BROTHERS AND COMPANY, INCORPORATED

On September 10th, 1904, at a meeting held at the Mine Inspector's office, at Hazleton, Mr. David J. Roderick, Mine Inspector, Mr. W. A. Cochran, representing J. Dundas Lippincott and the Philadelphia Trust, Safe Deposit and Insurance Co., Mr. B. C. Osler, representing John S. Wentz & Co., Mr. J. F. Hindson, representing John S. Wentz & Co., and Mr. Edgar Kudlich, representing Coxе Bros. & Co., Incorporated, being present, it was agreed to revise the former boundary pillar agreement of March 4th, 1903, entered upon to determine the boundary pillar between the Hazle Brook colliery workings



adjoining in its Eastern section to the Eckley lands of the Estate of Tench Coxe, operated by Coxe Bros. & Co., Incorporated, and to enter into a new agreement to conform with the recently established boundary lines, exchanging a certain piece of land, part of the John Cowden warrant, with an equal parcel of land, part of the Josiah Haines, which exchange was made legally perfect as to the control of mining rights according to letter of Hon. S. P. Wolverton, June 30th, 1904.

It is agreed that the boundary pillar shall be 100 feet thick near location of D. D. bore hole 170, as shown on the accompanying blue print; this means 50 feet each side of the line and the pillar to taper down to 60 feet on the North crop and to 40 feet on the South crop represented by a pillar of 30 feet, respectively 20 feet left on each side of the exchange line, as shown on the blue print which is made a part of this agreement.

DAVID J. RODERICK,  
Mine Inspector, 9th District.

WM. A. COCHRAN,

For J. Dundas Lippincott & Phila. Trust, Safe Dep. & Ins. Co.

B. C. OSLER,

For John S. Wentz & Co.

EDGAR KUDLICH,

For Coxe Bros. & Co., Incor.

## IMPROVEMENTS

### LEHIGH COAL AND NAVIGATION COMPANY

Colliery No. 4.—A landing was made at No. 5 tunnel level with a view of abandoning No. 4 breaker and preparing this coal at No. 6, instead of hauling it over to the Houto screen building.

Colliery No. 9.—A coal shaft 337 feet in depth and a water shaft 580 feet were sunk from the surface. The coal shaft was sunk to the level of the old Mammoth slope workings, while the water shaft was sunk deep enough for another lift, and a sump driven. From the bottom of the coal shaft a tunnel was driven south to within 35 feet of the old Mammoth slope workings, which were allowed to fill with water in 1881 to extinguish a mine fire which originated near bottom of slope. To tap this water a horizontal diamond drill hole was first driven from the face of tunnel 40 feet through rock and 70 feet through coal to the bottom slate of the vein. Twelve drill holes, each 35 feet long, in rock on a pitch of 20 degrees were driven to the old sump. As the holes were drilled into the water they were plugged up until the twelve were completed, when the water was allowed to run through over to the water shaft. The work of hoisting the water was commenced January 15 and com-

*John Corder  
Echley Colliery.*

*Artesian Well penetrated  
ed 590 feet at 212.*

*D. D. H. No 168.*

*D. D. H. No 170.*

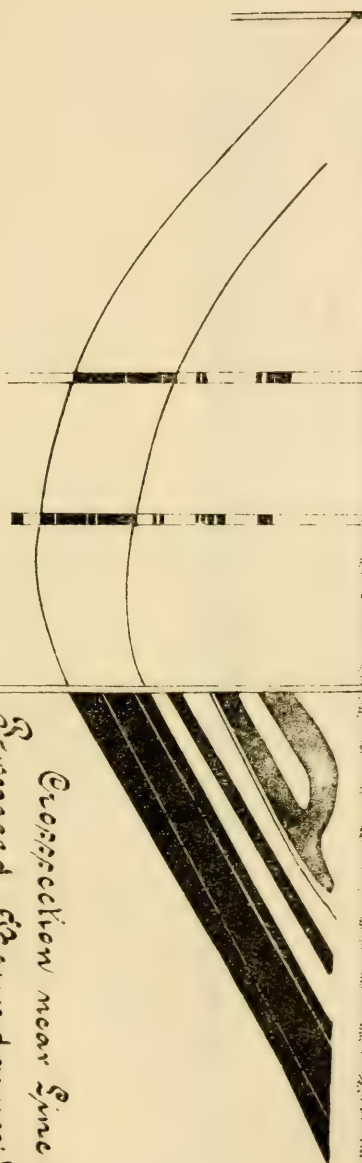
*Landline.*

*D. D. H. by Wentz & Co.*

*Josiah Haines.  
Hazlebrook Colliery.*

*Elevation near Line of  
Proposed Roundabout  
betw. Echley & Hazlebrook  
Collieries.*

*Scale 1" = 100 ft.*



<p>1890</p> <p>1891</p> <p>1892</p> <p>1893</p> <p>1894</p> <p>1895</p> <p>1896</p> <p>1897</p> <p>1898</p> <p>1899</p> <p>1900</p>	<p>1890</p> <p>1891</p> <p>1892</p> <p>1893</p> <p>1894</p> <p>1895</p> <p>1896</p> <p>1897</p> <p>1898</p> <p>1899</p> <p>1900</p>	<p>1890</p> <p>1891</p> <p>1892</p> <p>1893</p> <p>1894</p> <p>1895</p> <p>1896</p> <p>1897</p> <p>1898</p> <p>1899</p> <p>1900</p>
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1890

1891

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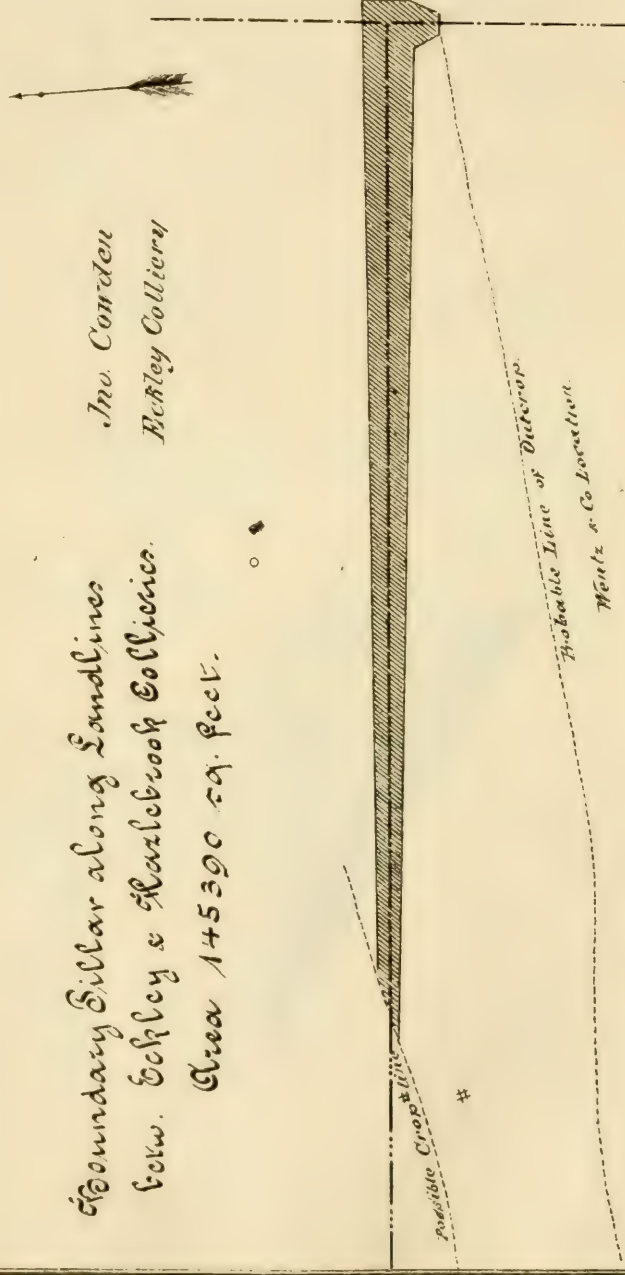
1899

1900



Boundary Pillar along Landlines  
betw. Eckley & Hazlebrook Collieries.  
Area 145390 sq. feet.

Ans. Conden  
Eckley Colliery



Josiah Haines.  
Hazlebrook Colliery.

Scale 1" = 400 ft.

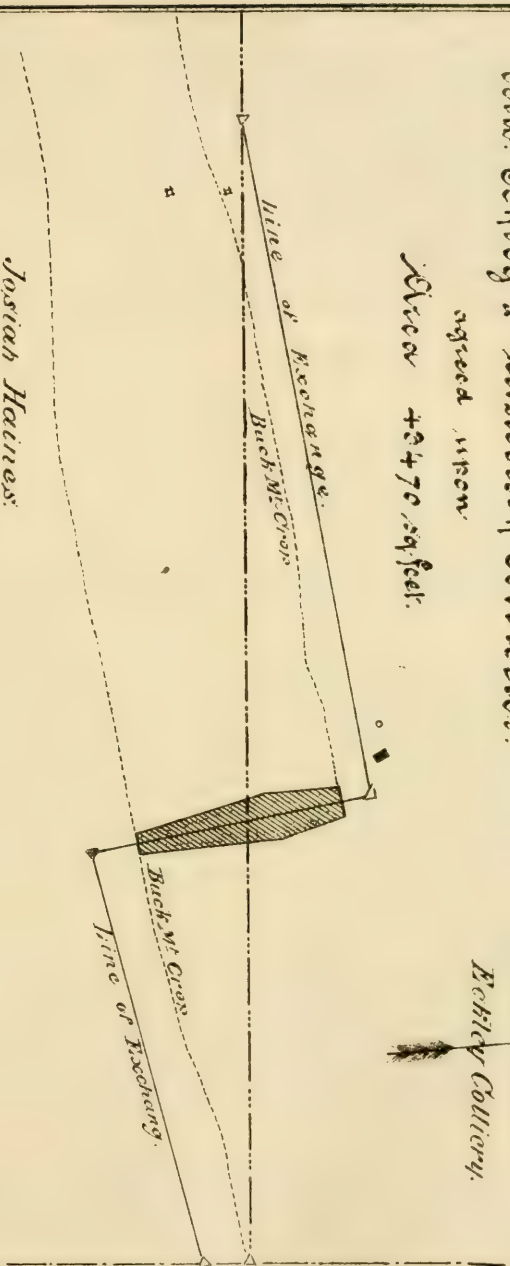


# Boundary Survey & Line of Exchange betw. Eckley & Hazlebrook Collieries.

Area agreed upon  
43470 sq feet.

Joshua Haines  
Hazlebrook Colliery.

John Condon.  
Eckley Colliery.



Uriah Smith.  
Eckley Colliery.

Scale 1" = 400 ft.

1871

1872

1873

1874

1875

1876

1877

1878

1879

1880

1881

1882

1883

1884

1885

pleted February 15. During this period the water engines were idle every day from three to fifteen hours, the flow of water through the holes not being sufficient to keep the engines employed. These engines are 42x60 inch direct acting and the tanks are of 3,000 gallons capacity. The tanks are hoisted to No. 9 tunnel level where they are emptied and the water allowed to run out the tunnel. A speed of 120 tanks per hour can be maintained on this hoist. The lift from old slope level to No. 9 tunnel level is 145 feet.

A pair of 30x60 inch engines have been installed at the coal shaft. 600 H. P. water tube boilers have been added to the boiler plant, making a total of 2,100 H. P.

All the water has been removed and the work of reopening the old Mammoth gangway is going on.

#### G. B. MARKLE AND COMPANY

Jeddo No. 4.—Rice and Barley shakers increased to 5x14 feet; 6 inch fresh water pipe laid from Oak Dale South Side to tank; 300 H. P., Babcock and Wilcox boiler added, and boiler house extended; water trough built from settling tank to East End stripping for slush; 7 inch steam pipe line from boiler house to Jeanesville pump on Oak Dale level.

Highland No. 5.—Two rolling platform shakers placed; Rice and Barley shakers enlarged to 5x14 feet; Goynes Duplex breaker pump, size 16x10x36 inch, installed; 300 H. P. Babcock and Wilcox boiler added and boiler house extended; plane roof extended 72 feet; settling dam constructed; boiler house drag line renewed; water drawn off in Old Pink Ash workings to level of 1,230 feet through bore holes; drainage of Highland No. 5 to waterway enlarged by shaft.

Highland No. 2.—General re-arrangement of breaker machinery; new 13x16 inch Erie City breaker engine; new steamboat coal rolls; new monkey rolls; new slate grinders; new elevator buckets; two jigs; two rolling platform shakers added to plant; all revolving screens, except one, changed to rolling shakers; 16 inch column pipe from bottom to surface; 14 inch column pipe from surface to top of breaker.

Highland No. 6.—Connection made at Highland No. 1 with Lehigh Valley tracks to transport coal to No. 2 breaker; 100 H. P. Erie City "Economic" boiler added; Cameron fresh water pump, size 10x6x13 inch, installed; two single 18x10x20 inch Cameron-Clark pumps at bottom of slope; Baldwin locomotive, size 11 7-8x18 inch, 29 tons, and 4-wheel caboose placed in service; supply store built; 12 inch column pipe from bottom of slope to surface.

Ebervale.—Electric light line extended from Jeddo No. 4 to stores and slopes; stable for store mules and wagons erected.

Jeddo.—Machine shop warehouse built.

## LEHIGH VALLEY COAL COMPANY

Hazleton No. 1 Colliery.—Tunnel on the 7th level, North Dip, from Wharton to Buck Mountain vein, 8x12x150 feet.

Hazleton Shaft Colliery.—An 8x12 foot tunnel is now being driven on 2d level from Primrose vein to Diamond vein. Distance driven during the year 300 feet; a 30x100 foot addition has been built to the breaker; a 25x50 foot addition was built to main hoisting engine house for the purpose of making room for electric power plant and mine foreman's office; at Stockton No. 2 slope, tributary to Hazleton shaft, an engine and boiler house has been erected, 45x70 feet, and one pair 17x34 inch hoisting engines, and 300 H. P. return tubular boilers installed.

Spring Brook Colliery.—A new flume, 2½x5x800 feet, built to keep surface water out of Mammoth Vein Stripping, east of Lehigh Valley Railroad.

## COXE BROTHERS AND COMPANY, INCORPORATED

Drifton.—Work in the Lattimer Stripping has been continued during the year. Over 500,000 yards have been removed, bringing the total of yardage removed to 1,548,270 yards up to January 1, 1905.

A surface track has been laid from Slope No. 1 Drifton to the Stripping, a total distance of 13,000 feet. The track has been completed, with the necessary sidings, and coal has been taken from these strippings since August. The present new work in these strippings is confined to making room for turnouts and sump room on the first stripping level.

New boiler plant, erection of one boiler and building, boiler of 175 horse power, also hoisting engine 17x24 inch, double, all at Lattimer stripping.

Two new mine locomotives, weight about 65,000 pounds each, to work between Lattimer stripping and Drifton breaker; one 50,000 gallon capacity tank at Lattimer Stripping; 4,779 feet 3-inch wood water pipe, to supply Woodside houses.

Drifton Slope No. 2.—The gangways in the Buck Mountain vein have been extended westward and will reach the land line in the early part of 1905. The gangways are driven in Buck Mountain vein only, and the vein shows about 3 feet of coal in top and bottom split on south side, but only about 2 feet of coal in top split on north side of the basin.

A proving slope was started off the southwest gangway bottom level, and sunk to a depth of about 180 feet. It has been stopped, pending installation of machinery, as the work to that depth was handled by mule power.

A tunnel is being driven from the bottom of slope No. 2 into the



Lattimer stripping, with a view of handling the coal from the west end by the Western stripping plane, ventilating the workings, and proving the overlying veins.

A new pump room has been excavated in top rock at the foot of the timber slope, preparatory to installing a new pump, which will be furnished by the Laidlaw-Dunn-Gordon Company, Cincinnati, Ohio. A new pump-way has been timbered for the column pipe for the new pump. This new pump will replace permanently the three intermediate pumps, which at present deliver the water to the breaker pump. This new pump will also relieve No. 1 Drifton mines of rehandling the No. 2 slope water as heretofore, as the new pump will deliver to the surface direct, while the present No. 2 pump discharges on No. 1 level, and the Gordon-Maxwell pump at Drifton slope No. 1 has to re-handle all the water.

Eckley.—Stripping South Basin Slope No. 1 has been continued; about 65,000 yards were removed. The total yardage removed up to January, 1905 amounted to 466,818 yards. These stripping operations will be completed during 1905.

The bottom level of Slope No. 10 has been abandoned and allowed to fill up, to assure the safety of the bottom level gangway draining the Eckley territory.

Buck Mountain.—The gangways re-opening the old slope No. 2 workings on the north side of the basin have been continuously worked.

A new slope No. 11 is being sunk on line of old Subterranean slope opposite Slope No. 2. The position of the vein has been ascertained by several diamond drill bore holes, and the slope is being graded through rock, as it will become an important factor in production. The first level has been started off Slope No. 11, turnout driven and gangways opened in eastward and westward directions.

A new stripping has been opened in extension of the present strippings and over 96,000 yards of material have been removed during 1904. These new strippings will expose the western end of the No. 1 slope workings, which have been run on higher level, and have left about 70 feet vertical unworked.

Preliminary steps are being taken to strip the Buck Mountain No 6 basin, which will require the removal of about 600,000 yards. The slope opening this territory will be known as Buck Mountain Slope No. 12.

Stockton.—Residual mining is continued in the Wharton vein above water level, and tunnels cleaned out to give access to the Primrose vein.

Beaver Meadow.—157,000 yards have been removed during 1904 in Greenfield strippings, making a total of 507,280 cubic yards up to January, 1905.



As the water was lowered in the Jeanesville and Coleraine workings, the water also lowered in the Temperance workings, and when the water reached a safe level in the Coleraine workings, the dams which were put in during 1902 strike were taken out, the Temperance workings cleaned out and mining resumed.

A track has been graded through the No. 8 stripping on a 6 per cent. grade, which reduces the distance for hauling the empty cars about one mile, and delivers the cars with a saving of about 70 feet perpendicular distance at the present working face of No. 8 stripping. It reduces the work on the slope, reduces the work of the air motor, and may eventually during favorable season displace the air motor altogether.

Beaver Meadow Slope No. 4.—An underground slope has been sunk and gangways driven on three levels to the Coleraine boundary pillar in western direction, and towards the submerged workings of the old No. 3 Wharton slope. This section is idle now, pending the tapping of the old No. 3 workings by a tunnel from the Gamma vein slant.

The drainage tunnel from slope No. 4 workings to slope No. 2 Beaver Meadow, has advanced over 900 feet, and is expected to connect with No. 2 workings towards the end of 1905, which will give all Beaver Meadow working levels natural drainage.

A 500 H. P. Babcock and Wilcox boiler has been installed at Beaver Meadow breaker boiler plant.

Four thousand six hundred feet of 8-inch steam pipe placed between breaker boilers and No. 4 slope.

Tomhicken.—Regular mining was continued on water level workings, the coal being taken to Derringer breaker by transfer trucks on the D., S. and S. Railroad. Slope No. 8 has been pumped out, and sinking operations will be resumed in 1905. The slope was sunk to its present depth by mule power. Hoisting engine with boiler has been installed.

Derringer-Gowan Collieries.—Work at Derringer-Gowan has been continued. At Derringer an engine was installed, bringing eventually the coal from lower levels, Derringer slope No. 5. Size of double hoisting engine 12x15 inch. Engine and barney completed, but barney pit and slope track not completed.

#### A. PARDEE AND COMPANY

Cranberry Colliery.—At Cranberry No. 5 the old hoisting engine has been replaced by an 18x30 inch, which has been placed just north of the location of the old one and on a solid concrete foundation. The form or mould for this foundation was made with anchor bolts, offset with cores for the drum, gear wheels, lever balances, etc., so that no mason work was necessary after the machinery was set in

place. The new engine was housed with a 25x44 foot corrugated steel building.

A new double track slope (Cranberry No. 6) has been opened into the North Basin, directly north of the Cranberry breaker. This slope was driven both up and down from an old Wharton vein gangway and is about 800 feet long. Hoisting from this slope will be done by the engine replaced at Cranberry No. 5. This engine has been rebuilt and placed in first class condition. This engine also rests on a solid concrete foundation, similar to the one at No. 5.

At Cranberry No. 4 fire destroyed the engine and boiler houses. These have been replaced by a new building 131 feet long by 44 feet clear span, covered with corrugated steel.

At Cranberry No. 1 a new 600 H. P. Keeler boiler has been installed and a 500 H. P. Climax boiler has been moved and rebuilt with a rectangular oven fire box 7 feet 6 inches deep by 12 feet 6 inches wide, covered by a single arch of 12 feet 6 inches span, having an 8 foot radius inside.

The greatest improvement made during the year is a concrete retaining wall along the boiler plant for holding the boiler fuel, also to act as a support for one side of a new steel boiler house to be erected in the near future. The retaining wall is 210 feet long, 23 feet high and has wing walls every 16 feet, both inside and outside, the inside ones to act as braces and the outside ones to support a conveyor. The wall is 2 feet thick to a height of 21 feet, from which it tapers to 1 foot at the top. The wall contains about 650 cubic yards of concrete and was mixed by a 4 foot cube concrete mixer and deposited in place by small drop bottom cars, drawn to the top of the frame by an incline plane operated by a small hoisting engine. The frame was completed to the full height before any concrete was deposited.

Each 16 foot stall has an opening 4x10 feet to allow the coal to run to the front of the boilers. The concrete was mixed and tamped in place by ten men, mostly ordinary laborers under a competent foreman, in twenty-four working days, or about 27 cubic yards per day. The mixture used was 1 cement, 3 sand, 2 rough cinder, 4 bone and slate from Chestnut size up.

#### PARDEE BROTHERS AND COMPANY

Lattimer.—The capacity of their central boiler plant was increased by the addition of two 260 H. P. Heine safety boilers, making the total capacity 2,080 H. P.

Built 2,000 feet of 3x5 feet flume and dug 5,800 feet of ditch along the north side of the Little Black Creek Basin, beginning at No. 2 washery and ending at the Hollywood Canal.

Along the eastern line a large flume has been constructed to carry

the waters of the Little Black Creek and its tributaries south and into the Lattimer Canal.

One 6 foot ventilating fan and engine, with a capacity of 18,000 feet of air per minute, has been installed at No. 8 slope.

Two new slopes have been sunk: No 10 in the Mammoth vein 1,900 feet west of No. 1, leaves the present lowest level and reaches the bottom of the basin on dip of 47 deg. 30 minutes south. No. 11 slope was sunk on the Primrose vein 329 feet north of No. 9 or "New Gamma Slope," the average dip being 67 degrees north. This slope is now about in the basin and gangways will soon be started.

In order to supply steam and compressed air for No. 10 slope a 10 inch bore hole was drilled from the surface to the bottom of the basin, a distance of 400 feet. The hole was drilled by the A. W. Drake Drilling Company, Hazleton, Pa., and was perfectly plumb and cased with 8 inch well casing, enclosing one line of steam and two lines of air pipes. In order to preserve the hole and to arrest the corrosion of the pipe, it is proposed to encase the pipe with cement its entire length, thus securing a steam and air tight hole upon the disintegration of the 8 inch casing.

The following tunnels have been driven: In No. 1 slope, 2d counter, a short tunnel has been driven south from the Mammoth to the Gamma vein. In West No. 2, or Fire stripping, a tunnel has been driven north from the Wharton to the Gamma vein. In No. 1 East, or "Orphans Home," a tunnel has been driven north from the Gamma to the Mammoth vein. This latter tunnel is to serve as an outlet for the coal now being stripped on the south crop of the Mammoth vein.

A new condemned coal house has been built 700 feet east of No. 4 breaker, enabling the condemned coal to be cleaned cheaply and satisfactorily.

#### CALVIN PARDEE AND COMPANY

Harwood.—In slope No. 14 during the past year they have driven two tunnels 100 feet long from the Gamma to the Wharton veins and a short tunnel from the Wharton to the Parlor vein. These tunnels were driven to get at the coal lying in the centre of the No. 1 slope basin and near the eastern line.

There has been installed a Jeansville Compound Duplex pump, 20 inch and 38x16x48 inch, having a capacity of 41 gallons per stroke, or 164 gallons per minute per revolution, with an average steam pressure of 95 lbs. This pump is located in the rock between the Gamma and Buck Mountain veins at an elevation of 1,324 feet, or 162 feet above the bottom of slope No. 14. The entrance from the slope to the pump house has been bricked up with the exception of a water tight door, insuring perfect service and safety even should



the water reach a higher elevation than the pump. A Goyne pump, 24x10x36 inches, is also located at this station.

A slope is being sunk (No. 23) in Buck Mountain vein, from the bottom of No. 14 to the centre of No. 1 basin.

In slope No. 19, "Back Basin," an inside slope (No. 25) is being sunk to the basin.

In slope No. 21, "Back Basin," a tunnel 60 feet long has been driven from the Buck Mountain to the Gamma vein and an inside slope is being sunk in the Buck Mountain vein to the basin.

The outside motive power has been increased by the addition of two 10x14 inch Vulcan locomotives.

#### UPPER LEHIGH COAL COMPANY

No. 1 Colliery.—Drove airway to surface from workings in underlying seam; put in three inch air line for pneumatic drills.

No. 2 Colliery.—Installed 16x16x10x16 two-stage Sullivan air compressor; installed 12-inch exhaust from slope pumps to surface.

No. 5 Colliery.—Stripped 1,500 feet of south crop of Buck Mountain vein.

Shaft Colliery.—Completed second opening by driving slope 1,000 feet long; erecting new tippie; installing 200 H. P. tubular boiler; one pair 10x12 inch double hoisting engines, with 4 foot friction drum, and two 8-inch diameter ventilating fans.

No. 2 Breaker.—One 12x24 inch stationary engine; two sets 24x24 inch manganese steel rolls; one 48x86 inch shaker screen.

#### C. M. DODSON AND COMPANY

Beaver Brook.—A slope was partially completed on the north dip of the Buck Mountain vein in No. 11 basin and when completed it will open the basin coal in that vein. The depth below the present lift will be about 400 feet. They have also driven a slope about 500 feet across the pitch in the Wharton vein of the Audenried shaft basin, from the former bottom of No. 6 slope.

Several short tunnels from the Buck Mountain to the Lykens were also completed during the year.

Six new tubular boilers of 150 H. P. each were erected, to take the place of twenty-eight cylinder boilers abandoned.

#### BLACK CREEK COAL COMPANY

Harleigh Colliery.—The Wharton slope was continued 150 feet into the basin; gangways are being driven and coal is being hoisted directly into the breaker. The old Mammoth slope has been abandoned. One 125 H. P. Manning Vertical boiler has been erected.

## M. S. KEMMERER AND COMPANY

The drainage tunnel at Sandy Run, mention of which was made in the report of last year, has been completed. The total length of tunnel from Sandy Valley end into the mines, including open cut, is 2,200 feet, the open cut extending 400 feet. About 400 feet is timbered before striking the solid rock, which work was very expensive, being compelled to forepole through loose rock and large conglomerate boulders. The northern end, 1,400 feet, is in solid rock, made up of red sandstone, green sandstone and conglomerate. A shaft 65 feet deep was sunk at a distance of 900 feet from the south end and tunnel driven north and south. At a distance of 50 feet from the mine workings a diamond drill hole,  $1\frac{1}{2}$  inches diameter, was drilled ahead and located the workings, corroborating the surveys. The tunnel was then driven about 30 feet farther north, or within 20 feet of the water, and nine diamond drill holes, 3 inches in diameter, were drilled into the water from face of tunnel. With these nine holes kept flowing day and night, iron rods being punched through them when they became blocked with pieces of coal, etc., the water was lowered from one foot to three feet per day to the level of the tunnel, taking a period of about five weeks. The nine bore holes were finished in July and the tunnel was driven into the mines during September. The vertical height of water drained was 160 feet and the volume of water was from that part of mines from which about 2,000,000 tons of coal had been mined. The elevation of north end of tunnel, where it enters the mines, is 1,399 feet above tide.

The mines are now being drained by the tunnel and the work of cleaning up the gangways, which were badly crushed and heaved, is now going on. The workings were filled with water about two years.

The enterprise will be a great saving to the Sandy Run operation and the management deserves a great deal of credit in the successful handling of the work, not a serious accident having occurred during the whole time it was in progress, which goes to show the care by which the large amount of dynamite required to do the work was handled.

## HAZLE MOUNTAIN COAL COMPANY

Old Black Ridge has been re-opened. The water was pumped out of the No. 1 basin, which had been standing full since 1888. The slope, after placing a few sets of timber at the mouth, was found to be in fairly good condition. When the bottom was reached, by making a few slight repairs to the old pump, which had lain in the water for sixteen years, it was started up and now handles all the water except during high water.



The old gangways, which were found full of sand, have been cleaned up and operations commenced.

A stripping was started and the material removed is being dumped on north side of creek to prevent water during freshets from running into stripping and finally into the mine.

A new breaker has been built, having a capacity of 800 tons per day.

A new boiler house, containing six high pressure boilers, has been constructed, also a new fan and two blocks of houses erected for their foremen. It is the intention of the company in the spring to build more houses for their workmen.

No. 4 Slope, which is about one and a half miles east of No. 1, has also been pumped out and gangways started. The coal from this slope is taken over Lehigh Valley Railroad to new breaker for preparation.

#### JOHN S. WENTZ AND COMPANY

Hazle Brook.—Tunnel from No. 3 vein to Buck Mountain vein on North Dip; tunnel from Buck Mountain vein to No. 3 vein on South dip; 1 steam shovel; 15 dump cars; 1 hoisting engine on stripping; 2 150 H. P. Erie city boilers; 1 20x12x24 inch pump made by Scranton Steam Pump Works, have been installed at this colliery.

#### Mine Foremen's Examinations

The annual examination of applicants for certificates of qualification as mine foremen and assistant mine foremen was held in the Pine street school building, at Hazleton, on January 28 and 29.

The Board of Examiners was David J. Roderick, Inspector; A. W. Drake, Superintendent; George McGee and Frederick Henry, miners.

The following named persons, having passed a satisfactory examination, received certificates:

#### Mine Foremen

Daniel West, Jacob Ulshofer, Henry Zimmerman, Thomas Conaghan, George W. Ernst, John Kringe, William H. Arey, Isaac Jones, John Conlin, Lawrence Donnelly, William H. Phillips, John M. Gallagher, William J. Martin.

#### Assistant Mine Foremen

William P. Griffith, Frank J. Conahan, Henry Shalles, Conrad Ehmer, Edward Doggett, William C. Thomas, Oliver Schlauch, Edward Black.



# Tenth District

SCHUYLKILL COUNTY

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Shenandoah, Pa., February 20, 1905.

Hon. James E. Roderick, Chief of Department of Mines:

Sir: I have the honor to transmit herewith my annual report as inspector of mines for the Tenth Anthracite District for the year ending December 31, 1904.

Respectfully submitted,

WILLIAM STEIN,  
Inspector.

## SUMMARY OF STATISTICS

Number of collieries, .....	34
Number of mines, .....	22
Number of mines in operation, .....	21
Number of tons of coal shipped to market, .....	3,492,326
Number of tons used at mines for steam and heat, .....	495,838
Number of tons sold to local trade and used by employes, .....	71,333
Number of tons of coal produced, .....	4,059,497
Number of persons employed inside of mines, .....	5,744
Number of persons employed outside, .....	3,984
Number of fatal accidents inside of mines, .....	30
Number of fatal accidents outside, .....	8
Number of non-fatal accidents inside of mines, .....	45
Number of non-fatal accidents outside, .....	8
Number of tons of coal produced per fatal accident inside, .....	135,317
Number of persons employed per fatal accident inside, ...	191
Number of persons employed per fatal accident outside, .....	498
Number of persons employed per non-fatal accident inside, .....	128
Number of persons employed per non-fatal accident outside, .....	498
Number of wives made widows by fatal accidents, .....	20
Number of children orphaned by fatal accidents, .....	44
Number of steam locomotives used inside of mines, .....	2
Number of steam locomotives used outside, .....	16
Number of compressed air locomotives used inside, .....	3
Number of fans used for ventilation, .....	34
Number of gaseous mines in operation, .....	29
Number of non-gaseous mines in operation, .....	5
Number of old mines abandoned, .....	1

TABLE A

## PRODUCTION OF COAL

Names of Operators	Tons
Philadelphia and Reading Coal and Iron Company, .....	2,422,785
Lehigh Valley Coal Company, .....	744,091
Susquehanna Coal Company, .....	236,786
Brookwood Coal Company, .....	137,372
Thomas Coal Company, .....	114,767
North American Coal Company, .....	105,949
W. R. McTurk and Company, .....	103,803
Cambridge Coal Company, .....	97,592
M. A. Gerber and S. A. Seaman, .....	51,910
Brighton Coal Company, .....	37,637
Lawrence Coal Company, .....	6,361
Stoddart Coal Company, .....	444
Total, .....	4,059,497

## Production by Counties

Schuylkill, .....	4,059,497
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TABLE B.—Fatal and non-fatal accidents inside and outside of mines; number of tons of coal produced per accident; number of persons employed; number employed per accident

Names of Operators	Fatal Accidents			Non-Fatal Accidents			Tons of coal produced per fatal accident inside	Tons of coal produced per non-fatal accident inside	Number of employees inside	Number of employees outside	Total number of employees	Number of employees inside per fatal accident	Number of employees outside per fatal accident	Number of employees inside per non-fatal accident	Number of employees outside per non-fatal accident
	Inside	Outside	Total	Inside	Outside	Total									
Philadelphia and Reading Coal and Iron Co.,	14	3	17	29	3	32	173,056	83,514	3,648	2,321	6,069	291	1,216	126	897
Lehigh Valley Coal Co.,	14	2	16	9	1	10	53,140	82,077	1,148	358	1,746	82	299	128	598
Susquehanna Coal Co.,	1	1	2	1	5	7	236,786	47,377	1,482	259	1,741	482	140	96	129
Brookwood Coal Co.,	1	1	2	1	1	1	137,372	137,372	80	140	220	80	140	80	118
Thomas Coal Co.,						1			76	118	194				
North American Coal Co.,									90	90			90		
W. R. McFurk and Co.,			1	1					88	117	205	117			
Cambridge Coal Co.,				1				97,562	125	60	185	185		135	
Brighton Coal Co.,					1	1		65	65	65	65	65			65
Miscellaneous companies,									97	116	213				
Totals and averages for district, .....	20	8	38	45	8	53	135,317	90,211	5,714	3,984	9,728	191	478	128	498





TABLE E.—Occupations of persons killed or fatally injured inside and outside of mines

	Inside										Outside										Grand total	
	Mine foremen	Assistant mine foremen	Pipe losses and assistants	Miners	Miners' laborers	Drivers and runners	Boat-boys and helpers	Pumpmen	Company men	All other employees	Total inside	Superintendents	Foremen	Blacksmiths and carpenters	Engineers and firemen	State pickers (boys)	State pickers (men)	Book-keepers and clerks	All other employees	Total outside		
January				1	2					1	3									2	2	12
February				1	1																	1
March				1	4																	5
April																						
May																						
June																						
July				1	1									1						1	2	5
August				2	1																	3
September				2	2	1					1					1				1	2	7
October																						
November					1																	
December																						
Totals				13	12	1			2	1	30			1		1			6	6	58	

TABLE F.—Occupations of persons injured inside and outside of mines

	Inside										Outside								Grand total		
	Mine foremen	Assistant mine foremen	Fire bosses and assistants	Miners	Miners' laborers	Drivers and runners	Boat-boys and helpers	Pumpmen	Company men	All other employes	Total inside	Superintendents	Foremen	Blacksmiths and carpenters	Engineers and firemen	State pickers (boys)	State pickers (men)	Book-keepers and clerks		All other employes	Total outside
January.				1	1	1	1			1	14	1				1				1	17
February.				1	1	1	1			1	3										1
March.				1	1	1	1			1	4					1					1
April.				1	1	1	1			1	1										1
May.				1	1	1	1			1	1										1
June.				1	1	1	1			1	1										1
July.				1	1	1	1			1	1										1
August.				1	1	1	1			1	1										1
September.				1	1	1	1		1		1								1		1
October.				1	1	1	1			1	1										1
November.				1	1	1	1			1	1										1
December.				1	1	1	1			1	1										1
Totals.	45			18	16	5	5		1	5	45					2				6	53



TABLE G.—Nationality of Persons Killed or Fatally Injured Inside and Outside of Mines

	American	English	Irish	German	Polish	Hungarian	Italian	Lithuanian	Greek	Totals
January, .....	1				2					3
February, .....	3						1			3
March, .....	1									3
April, .....					3			2		6
May, .....	2							1		3
June, .....					1			1		3
July, .....		1		1	1	1		1		5
August, .....			1		1					2
September, .....	1				2			2		5
October, .....	1					1				2
November, .....					1					1
December, .....						1	1			2
Totals, .....	8	1	1	1	11	3	2	10	1	38

TABLE H.—Nationality of Persons Injured Inside and Outside of Mines

	American	Welsh	Irish	Polish	Lithuanian	Russian	Greek	Totals
January, .....	2		1	10	1		1	15
February, .....	2							2
March, .....	1	1						2
April, .....	2					1		4
May, .....	3				1			6
June, .....			1	2	4	1		8
July, .....	1							1
August, .....	2			1				3
September, .....		1		1				2
October, .....	1				1			2
November, .....	2			1	2			5
December, .....				1	1		1	3
Totals, .....	16	2	3	17	11	2	2	53

TABLE I.—Operators and mines, kind of openings, type and size of fans, size of furnaces, volume of air produced by fan or furnace per minute, number of splits of air currents, number of persons employed inside, and quantity of air produced for each person per minute

Names of Operators and Mines	Kind of opening	Gaseous or non-gaseous	Method of ventilation	Diameter of fan in feet	Width of blades in feet	Depth of blades in feet	Number of revolutions per minute	Water Gauge developed—in inches	Name of fan	Power used	Number of splits of air currents	Number of cubic feet of air per minute entering the mine at inlet	Total quantity of air per minute circulating in all the splits in cubic feet	Number of cubic feet per minute passing out at outlet	Number of persons employed inside	Average number of cubic feet per minute provided for each person
Philadelphia and Reading Coal and Iron Co.																
Indian Ridge, .....	Shaft, .....	Gaseous, .....	Fan, .....	15	6	4½	75	1.5	Gubbal, .....	Steam, .....	11	182,000	173,514	182,000	378	459
Indian Ridge, .....	Shaft, .....	Gaseous, .....	Fan, .....	17	6	4½	60	1.1	Gubbal, .....	Steam, .....	9		90,850	158,910	303	300
Indian Ridge, .....	Shaft, .....	Gaseous, .....	Fan, .....	22	2.8	4½	70	1.3	Gubbal, .....	Com. air, .....	3	137,840	91,524	35,515	120	782
Shenandoah Co., .....	Slope, .....	Gaseous, .....	Fan, .....	18	6	4½	200	1	Gubbal, .....	Steam, .....	12	95,515	139,454	383	323	
West Shenandoah, .....	Slope, .....	Gaseous, .....	Fan, .....	12	4	4½	90	1	Gubbal, .....	Steam, .....	9	140,857	125,783			
Turkey Run, .....	Slope, .....	Gaseous, .....	Fan, .....	13	4	3.8	70	1	Gubbal, .....	Steam, .....	8		62,600	65,580	297	211
Turkey Run, .....	Slope, .....	Gaseous, .....	Fan, .....	15	6	4½	70	1.3	Gubbal, .....	Steam, .....	7	65,580	62,600			
Kelley, .....	Shaft, .....	Gaseous, .....	Fan, .....	18	6	4½	70	.5	Gubbal, .....	Steam, .....	11	47,320	90,320	95,500	222	350
Hammond, .....	Slope, .....	Gaseous, .....	Fan, .....	12	4	4	50	1	Gubbal, .....	Steam, .....	9	58,985	50,923	46,000	180	283
Hammond, .....	Slope, .....	Gaseous, .....	Fan, .....	20	4	4	70	1.3	Gubbal, .....	Steam, .....	7		50,980	63,000	199	460
Bast, .....	Slope, .....	Gaseous, .....	Fan, .....	18	6	4½	65	1.3	Gubbal, .....	Steam, .....	9	85,200	80,119	86,900	198	405
Bast, .....	Slope, .....	Gaseous, .....	Fan, .....	21	7	5	80	1.8	Gubbal, .....	Steam, .....	7	61,800	103,519	107,500	300	345
Bear Ridge, .....	Slope, .....	Gaseous, .....	Fan, .....	16	4	4	80	1.8	Gubbal, .....	Steam, .....	9	85,200	80,119	86,900	198	405
Gilberton, .....	Slope, .....	Gaseous, .....	Fan, .....	18	6	4	75	1.3	Gubbal, .....	Steam, .....	9	85,200	80,119	86,900	198	405
Draper, .....	Slope, .....	Gaseous, .....	Fan, .....	18	6	4½	75	1.3	Gubbal, .....	Steam, .....	9	85,200	80,119	86,900	198	405
Draper, .....	Slope, .....	Gaseous, .....	Fan, .....	17	6	4½	70	1.4	Gubbal, .....	Steam, .....	12	107,500	103,519	107,500	300	345
Draper, .....	Slope, .....	Gaseous, .....	Fan, .....	17	6	4	70	.8	Gubbal, .....	Steam, .....	12	107,500	103,519	107,500	300	345
Girard Mammoth, *	Slope, .....	Gaseous, .....	Fan, .....	12	4	4	70	.8	Gubbal, .....	Steam, .....	12	107,500	103,519	107,500	300	345

\*Idle.



TABLE 1.—Operators, location of collieries, railroads, etc.

Names of Operators and Collieries	County	Name of General Superintendent	Post Office	Name of Superintendent	Post Office	Railroad to Mine
Philadelphia and Reading Coal and Iron Co.	Schuylkill,.....	William J. Richards.	Pottsville, .....	John Veith, .....	Pottsville, .....	Philadelphia and Reading
Indian Ridge, .....						
Shenandoah City, .....						
West Shenandoah, .....						
Turkey Run, .....						
Kohlnoor, .....						
Hammond, .....						
Bast, .....						
Bear Ridge, .....						
Gilberton, .....						
Draper, .....						
Girard Mammoth, .....						
Girard Mammoth washery, .....						
Plank Ridge washery, .....						
Lehigh Valley Coal Co.	Schuylkill,.....	S. D. Warriner, ..	Wilkes-Barre, ....	J. M. Humphreys, .....	Centralia, .....	Lehigh Valley
Packer No. 2, .....						
Packer No. 3, .....						
Packer No. 4, .....						
Packer No. 5, .....	Schuylkill,.....	Robert A. Quin, ..	Wilkes-Barre, ....	William Auman, ..	Shaft, .....	Pennsylvania
Susquehanna Coal Co.						
William Penn, .....						

Brookwood Coal Co. Stanton, .....	Schuykill, .....	Henry Meyers, ....	Minersville, .....	.....	Philadelphia and Reading
Brookwood washery,* .....	Schuykill, .....	Thomas Baird, ....	Shenandoah, .....	.....	Philadelphia and Reading
Raven Run washery, .....	Schuykill, .....	H. W. Saums, ....	Wilkes-Barre, ....	.....	Philadelphia and Reading
Thomas Coal Co. Kehley's Run, .....	Schuykill, .....	W. R. McTurk, ....	Girardville, .....	W. J. Heiser, ....	Philadelphia and Reading
North American Coal Co. No. 1 Schuykill washery, .....	Schuykill, .....	David R. James, .	Shenandoah, .....	David R. James, .	Philadelphia and Reading
W. R. McTurk and Co. Ghard, .....	Schuykill, .....	M. A. Gerber, ....	Tamaqua, .....	William J. Miller, ..	Philadelphia and Reading
Cambridge Coal Co. Cambridge, .....	Schuykill, .....	.....	Pottsville, .....	R. R. Williams, ..	Philadelphia and Reading
M. A. Gerber and S. A. Seaman Furnace, .....	Schuykill, .....	W. S. Shaefer, ....	.....	William J. Miller, ..	Philadelphia and Reading
Brighton Coal Co. Lawrence, .....	Schuykill, .....	.....	.....	D. H. McGee, ....	Philadelphia and Reading
Lawrence Coal Co. Stoddart Coal Co.	Schuykill, .....	.....	.....	.....	Philadelphia and Reading
Stoddart,* .....	Schuykill, .....	.....	.....	.....	Philadelphia and Reading

\*Abandoned.



TABLE 2.—Number of tons of coal mined, number of days worked, number of persons employed, number killed and injured, quantity of powder and dynamite used, etc.

Names of Operators and Collieries	County	Number of tons of coal shipped to market	Number of tons used at collieries for steam and heat	Number of tons sold to local trade and used by employes	Total production of coal in tons	Number of days worked (totals are averages, not including washeries)	Number of employees	Number of fatal accidents	Number of non-fatal accidents	Number of kegs of powder used	Number of pounds of dynamite used	Number of horses and mules
Philadelphia and Reading Coal and Iron Co.												
Indian Ridge, .....	Schuylkill, .....	177,047	24,475	17,668	519,190	246	653	.....	4	5,123	9,637	73
Shenandoah City, .....	Schuylkill, .....	255,135	68,534	20,239	354,298	261	777	.....	11	6,740	16,942	68
West Shenandoah, .....	Schuylkill, .....	.....	.....	.....	.....	.....	.....	.....	2	5,450	8,816	49
Turkey Run, .....	Schuylkill, .....	554,366	51,007	3	605,376	249	659	.....	2	2,698	15,235	62
Hammond, .....	Schuylkill, .....	.....	.....	.....	.....	.....	.....	.....	3	1,795	3,944	26
Hammond, .....	Schuylkill, .....	240,854	25,315	5,895	272,064	267	673	.....	2	2,984	59,747	65
Basin Ridge, .....	Schuylkill, .....	196,061	54,524	6,574	257,159	260	552	.....	1	62	62,744	72
Basin Ridge, .....	Schuylkill, .....	95,891	16,005	2,610	114,906	209	298	.....	2	1,026	9,636	44
Gilberton, .....	Schuylkill, .....	196,348	51,201	2,857	256,496	259	725	.....	.....	1,204	53,425	46
Draper, .....	Schuylkill, .....	226,016	12,695	.....	238,711	231	519	.....	6	4,514	59,014	62
Grand Mammoth, .....	Schuylkill, .....	79,189	25,369	177	104,675	249	242	.....	.....	119	11,561	18
Totals, .....		2,630,907	335,455	56,422	2,422,785	248	6,069	17	32	31,725	310,131	585
Lehigh Valley Coal Co.												
Packer No. 1, .....	Schuylkill, .....	120,119	10,625	.....	130,747	.....	247	.....	1	1,176	9,086	28
Packer No. 2, .....	Schuylkill, .....	174,337	6,800	.....	177,837	.....	289	.....	2	2,567	13,374	45
Packer No. 3, .....	Schuylkill, .....	98,218	33,317	9,8	1,344,432	247	691	.....	3	3,086	6,162	40
Packer No. 4, .....	Schuylkill, .....	264,615	18,445	.....	283,064	.....	699	.....	6	3,539	52,921	91
Totals, .....		654,292	88,891	908	744,091	247	1,746	16	10	10,368	81,383	204
Susquehanna Coal Co.												
William Penn, .....	Schuylkill, .....	198,050	36,696	2,040	236,786	219	741	1	7	6,869	18,650	59

Stanton, .....	Brookwood Coal Co.	Schuylkill, .....	90,853	4,850	4,955	100,658	261	157	2	1	50	12,100	13
Brookwood washery, .....		Schuylkill, .....	10,512	535		11,037	73	32					3
Raven Run Washery, .....		Schuylkill, .....	24,018	1,200	453	23,617	84	31					
Totals, .....			34,530	1,725	459	36,714	79	63					3
	Thomas Coal Co.		125,353	6,575	5,414	137,372	261	220	2	1	50	12,100	16
Kehley's Run, .....		Schuylkill, .....	105,168	4,700	4,899	114,767	265	194		1	355	5,250	13
No. 1 Schuylkill washery, .....	North American Coal Co.	Schuylkill, .....	95,725	10,018	206	105,949	222	90	1				3
Gird, .....	W. R. McTurk and Co.	Schuylkill, .....	101,553	2,169	90	103,803	275	205	1		275	16,250	22
Cambridge, .....	Cambridge Coal Co.	Schuylkill, .....	93,619	2,063	1,913	97,592	278	185		1	1,275	6,050	10
M. A. Gether and S. A. Seaman			47,769	4,150		51,910	239	144			975	7,500	12
Brighton washery, .....	Brighton Coal Co.	Schuylkill, .....	33,227	4,410		37,637	157	65		1			
Lawrence, .....	Lawrence Coal Co.	Schuylkill, .....	6,258	63	40	5,361	295	29					
Stoddard washery, .....	Stoddard Coal Co.	Schuylkill, .....	384	60		444	3	40					
Grand totals, .....			3,492,326	495,838	71,333	4,059,497	246	9,728	38	53	51,892	457,304	924

TABLE 2.—Recapitulation

Philadelphia and Reading Coal and Iron Co., .....	Schuylkill, .....	2,030,907	335,455	46,423	2,422,755	248	6,069	17	32	31,725	310,121	585
Lehigh Valley Coal Co., .....	Schuylkill, .....	654,292	88,891	908	744,491	247	1,746	16	10	10,368	81,353	204
Brookwood Coal Co., .....	Schuylkill, .....	125,383	6,575	5,414	137,372	261	220			50	12,100	16
Susquehanna Coal Co., .....	Schuylkill, .....	198,050	36,606	2,040	236,786	219	741	1	7	6,869	18,659	59
Miscellaneous companies, .....	Schuylkill, .....	483,694	28,221	16,548	518,463	219	952	4	4	2,850	37,450	60
Totals, .....		3,492,326	495,838	71,333	4,059,497	246	9,728	38	53	51,892	457,304	924

TABLE 2.—Continued

Names of Operators	County	Number of Boilers				Locomotives			Total horse power	Number of steam engines of all classes	Total horse power	Number of pumps delivering water to surface	Capacity in gallons per minute	Quantity delivered to surface per minute—gallons	Number of electric dynamos	Number of air compressors
		Cylindrical	Horse power	Tubular	Horse power	Steam	Air	Electric								
Schuylkill.....	Schuylkill.....	86	1,980	121	15,730	17,710	8	3	152	21,222	31	37,880	27,450	9	.....	.....
Philadelphia and Reading Coal and Iron Co.,	Schuylkill.....	21	673	26	5,100	5,779	6	.....	72	10,541	10	8,710	3,370	1	.....	.....
Lehigh Valley Coal Co.,	Schuylkill.....	.....	.....	11	1,550	1,550	1	.....	19	1,585	.....	1,550	639	.....	.....	.....
Susquehanna Coal Co.,	Schuylkill.....	.....	.....	9	1,125	1,125	.....	.....	34	1,246	.....	.....	.....	.....	.....	.....
Brookwood Coal Co.,	Schuylkill.....	.....	.....	4	1,280	3,200	.....	.....	5	270	2	1,260	1,260	.....	.....	.....
Thomas Coal Co.,	Schuylkill.....	24	1,920	4	1,280	3,200	.....	.....	5	270	2	1,260	1,260	.....	.....	.....
North American Coal Co.,	Schuylkill.....	.....	.....	7	1,000	1,000	.....	.....	11	270	.....	.....	.....	.....	.....	.....
W. R. McTurk and Co.,	Schuylkill.....	.....	.....	6	340	340	.....	.....	14	640	.....	.....	.....	.....	.....	.....
Cambridge Coal Co.,	Schuylkill.....	2	50	3	300	350	2	.....	4	120	.....	.....	.....	.....	.....	.....
M. A. Gerber and S. A. Seaman,	Schuylkill.....	1	15	4	240	255	.....	.....	8	120	1	360	150	.....	.....	.....
Brighton Coal Co.,	Schuylkill.....	.....	.....	6	660	660	1	.....	7	580	.....	.....	.....	.....	.....	.....
Lawrence Coal Co.,	Schuylkill.....	.....	.....	2	250	250	.....	.....	.....	230	.....	.....	.....	.....	.....	.....
Stoddard Coal Co.,	Schuylkill.....	.....	.....	3	400	400	.....	.....	6	230	.....	.....	.....	.....	.....	.....
Totals,	.....	114	4,644	202	7,975	32,619	18	3	332	36,531	44	49,760	32,869	1	9	.....



TABLE 3.—Continued

Names of operators and Col- lieries	County	Inside										Outside										Grand totals inside and outside
		Mine foremen	Assistant mine foremen	Fire bosses and assistants	Miners	Miners' laborers	Drivers and runners	Door boys and helpers	Pumpmen	Company men	All other employes	Total inside	Superintendents	Foremen	Blacksmiths and carpenters	Engineers and firemen	State pickers (boys)	State pickers (men)	Book-keepers and clerks	All other employes	Total outside	
Brookwood Coal Co.																						
Stanton, .....	Schuylkill, .....	1	...	...	16	23	4	2	.....	28	8	80	1	1	3	8	18	2	2	42	77	157
Brookwood washery, .....	Schuylkill, .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	2	6	5	.....	.....	18	32	32
Rayen Run washery, .....	Schuylkill, .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	1	1	6	3	.....	1	18	31	31
Totals, .....	.....	1	.....	.....	16	23	4	2	.....	36	8	80	1	2	3	12	8	.....	1	26	63	63
Thomas Coal Co.																						
Kehley's Run, .....	Schuylkill, .....	1	1	1	29	35	4	2	3	1	.....	76	1	1	5	11	44	.....	2	54	118	194
North American Coal Co.																						
No. 1 Schuylkill washery, .....	Schuylkill, .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	5	11	8	8	1	56	90	90
W. R. McTurk and Co.																						
Girard, .....	Schuylkill, .....	1	1	1	34	12	6	3	.....	31	.....	88	1	1	5	6	39	.....	2	72	117	205
Cambridge Coal Co.																						
Cambridge, .....	Schuylkill, .....	1	2	.....	47	61	5	.....	.....	9	.....	125	.....	1	3	8	10	3	1	34	60	185
M. A. Gerber and S. A. Sea- man																						
Furnace, .....	Schuylkill, .....	1	1	1	37	15	7	1	1	14	2	79	1	1	3	7	32	.....	1	20	65	144



[illegible]

TABLE 3.—Recapitulation

[illegible]

TABLE 3.—Continued

Names of Operators	County	Average Number of Days Worked in Breaker												Total
		January	February	March	April	May	June	July	August	September	October	November	December	
Philadelphia and Reading Coal and Iron Co., ....	Schuylkill,....	22	19	15	22	22	24	20	19	16	23	23	23	248
Lehigh Valley Coal Co., .....	Schuylkill,....	22	18	24	22	21	24	18	15	15	22	22	24	247
Susquehanna Coal Co., .....	Schuylkill,....	18	19	19	18	19	20	16	17	16	19	18	20	219
Brookwood Coal Co., .....	Schuylkill,....	19	21	21	22	23	23	18	21	19	23	25	26	261
Thomas Coal Co., .....	Schuylkill,....	22	19	23	25	20	23	22	20	18	25	24	24	265
W. R. McKel and Co., .....	Schuylkill,....	23	21	17	24	22	25	21	19	16	24	24	21	255
Cambridge Coal Co., .....	Schuylkill,....	23	21	17	25	23	25	20	19	16	24	24	24	258
M. A. Geber and S. A. Seaman, .....	Schuylkill,....	22	17	16	25	24	25	20	19	16	24	21	24	269
Lawrence Coal Co., .....	Schuylkill,....	20	23	18	24	23	25	24	21	18	9	25	25	265
General averages, .....		21	20	19	23	22	24	20	19	17	21	20	20	246

TABLE 4.—Fatal accidents inside and outside of mines

Date of accident	Name of Person	Nationality	Occupation	Age	Married or single	Number of widows	Number of orphans	Name of Mine	County	Nature and Cause of Accident in Brief
Jan. 14	Louis Bolinski, .....	Polish, .....	Laborer, .....	24	S.	.....	.....	Packer No. 4, .....	Schuylkill, .....	Killed by fall of coal.
14	Martin Stanton, .....	American, ..	Starter, ....	24	S.	.....	.....	Bast, .....	Schuylkill, .....	Killed by a piece of loose coal rolling on him.
Feb. 20	Joseph Gowlack, .....	Polish, .....	Laborer, ..	35	S.	.....	.....	Shenandoah City, .....	Schuylkill, .....	Killed by fall of coal.
5	John Demoreo, .....	Italian, .....	Laborer, ..	26	M.	1	3	Girard, .....	Schuylkill, .....	Fatally squeezed between cars. Died March 15. Outside.
17	Thomas Hopkins, .....	American, ..	Miner, .....	44	M.	1	2	Turkey Run, .....	Schuylkill, .....	Fatally squeezed between locomotive and mine car. Died February 24.
29	Anthony Barratt, .....	American, ..	Laborer, ..	26	S.	.....	.....	Packer No. 4, ....	Schuylkill, .....	Fatally injured between railroad cars. Died March 13. Outside.
March 4	Anthony Mutzka, .....	Greek, .....	Laborer, ..	26	S.	.....	.....	Turkey Run, .....	Schuylkill, .....	Killed between car and prop.
10	Stiney Kropotvitch, ....	Lithuanian, ..	Miner, .....	48	M.	1	2	Kohinoor, .....	Schuylkill, .....	Fatally injured by fall of slate. Died March 20.
26	John Barratt, .....	American, ..	Miner, .....	35	S.	.....	.....	Packer No. 5, .....	Schuylkill, .....	Killed by rush of coal at battery.
April 9	Felix Cruceskie, .....	Polish, .....	Miner, .....	35	M.	1	3	Shenandoah City, .....	Schuylkill, .....	Fatally injured between locomotive and timber. Died April 20.
13	Joseph Sherva, .....	Polish, .....	Laborer, ..	35	M.	1	.....	Turkey Run, .....	Schuylkill, .....	Fatally squeezed between buggy and car. Died April 22.
18	John Mulcausky, .....	Lithuanian, ..	Laborer, ..	24	S.	.....	.....	Packer No. 3, .....	Schuylkill, .....	Killed by fall of coal.
19	Michael Platt, .....	Polish, .....	Miner, .....	42	M.	1	4	Packer No. 2, ....	Schuylkill, .....	Killed by fall of coal.
26	John Tusavage, .....	Lithuanian, ..	Laborer, ..	30	M.	1	.....	Packer No. 3, ....	Schuylkill, .....	Killed by fall of coal.
29	Joseph Noblinski, .....	Lithuanian, ..	Laborer, ..	33	M.	1	4	Packer No. 3, ....	Schuylkill, .....	Killed. While riding up slope he stood upright in car and his head came in contact with a collar.
May 6	John Schublick, .....	Lithuanian, ..	Miner, .....	40	M.	1	3	Kohinoor, .....	Schuylkill, .....	Fatally burned with powder. Died May 18.
7	John Canfield, .....	American, ..	Track helper, ..	21	S.	.....	.....	Packer No. 5, ....	Schuylkill, .....	Fatally injured while repairing slope truck. Died on his way to the hospital.
7	James Heffron, .....	American, ..	Bottom man, ..	22	S.	.....	.....	Packer No. 5, ....	Schuylkill, .....	Fatally injured by Canfield's body knocking him down the slope. Died May 10.
June 8	John Urbinski, .....	Lithuanian, ..	Miner, .....	36	M.	1	3	Draper, .....	Schuylkill, .....	Killed by a fall of partition slate.
22	Charles Sienitskie, .....	Lithuanian, ..	Miner, .....	40	M.	1	2	Turkey Run, .....	Schuylkill, .....	Killed by a fall of coal.
23	Frank Sienofskie, .....	Polish, .....	Laborer, ..	24	S.	.....	.....	Draper, .....	Schuylkill, .....	Fatally injured by falling down inside slope.
July 8	Peter Kersnik, .....	Lithuanian, ..	Miner, .....	26	S.	.....	.....	William Penn, ..	Schuylkill, .....	Fatally burned with powder. Died July 10.
9	Joseph Collick, .....	Hungarian, ..	Laborer, ..	21	S.	.....	.....	Bear Ridge, .....	Schuylkill, .....	Killed by slide of timber back. Outside.
16	William Smith, .....	Polish, .....	Miner, .....	54	M.	1	2	Gilberton, .....	Schuylkill, .....	Killed by falling down manway.

TABLE 4.--Continued

Date of accident	Name of Person	Nationality	Occupation	Age	Married or single	Number of widows	Number of orphans	Name of Mine	County	Nature and Cause of Accident in Brief
July	26 James Coop, .....	English, .....	Miner, .....	51	M.	1	3	Stanton, .....	Schuykill, ....	Fatally injured at stripping by slide of top run slate. Died same day.
Aug.	30 Albert Phomm, .....	German, .....	Carpenter, .....	41	M.	1	3	West Shenandoah, .....	Schuykill, ....	Killed between mine cars. Outside.
	2 Joseph Zdeske, .....	Polish, .....	Laborer, .....	42	M.	1	....	Packer No. 5, .....	Schuykill, ....	Fatally injured by fall of coal. Died August 2.
	31 John O'Day, .....	Irish, .....	Repairman, .....	37	M.	1	2	Hammond, .....	Schuykill, ....	Killed. While repairing bottom of slope two cars were pushed over knuckle on him by the topmen.
Sept.	6 Joseph Mynchinski, ....	Polish, .....	Miner, .....	30	M.	1	1	Packer No. 5, ....	Schuykill, ....	Fatally injured by fall of coal. Died September 7.
	6 George Metosavage, ....	Lithuanian, .....	Miner, .....	37	M.	1	2	Packer No. 5, ....	Schuykill, ....	Fatally burned with powder. Died September 9.
	6 Stiney Brotskie, .....	Lithuanian, .....	Laborer, ...	39	M.	1	3	Packer No. 5, ....	Schuykill, ....	Fatally burned with powder. Died September 13.
Oct.	7 Patrick Herrity, .....	American, ...	Driver, .....	21	S.	....	....	Packer No. 5, ....	Schuykill, ....	Killed between mule and car.
	17 Joseph Mench, .....	Polish, .....	Laborer, ...	28	M.	1	2	Packer No. 5, ....	Schuykill, ....	Killed by fall of coal.
	11 Joseph Seisnacky, .....	Hungarian, .....	Laborer, ...	29	S.	....	....	No. 4, Schuykill	Schuykill, ....	Fatally injured. Rock fell on him from face of stripping. Died October 13. Outside.
Nov.	21 Frank Lunlevy, .....	American, ...	Jig boy, ....	17	S.	....	....	Packer No. 4, ....	Schuykill, ....	Killed while assisting to repair jig conveyor. Outside.
	15 Samuel Sincosfskie, ...	Polish, .....	Laborer, ...	22	S.	....	....	Hammond, .....	Schuykill, ....	Killed. While riding up the slope he stood erect in the car and his head was caught against a collar.
Dec.	21 Felix Mia, .....	Italian, .....	Laborer, ...	25	S.	....	....	Grand Mammoth, .....	Schuykill, ....	Fatally injured by a slide of coal from face of stripping. Died December 23. Outside.
	22 Mike Mocksinick, .....	Hungarian, .....	Laborer, ...	46	S.	....	....	Stanton, .....	Schuykill, ....	Fatally injured by falling from breaker. Died December 24. Outside.

TABLE 5.—Non-fatal accidents inside and outside of mines

Date of accident	Name of Person	Nationality	Occupation	Age	Married or single	Name of Mine	County	Nature and Cause of Accident in Brief
Jan. 13	Joseph Wastorzak, .....	Greek, .....	Miner, .....	26	S	William Penn, .....	Schuylkill, .....	Severe lacerations of face and hands by a fall of slate.
11	Joseph Sulacz, .....	Lithuanian, .....	Driver, .....	22	S	William Penn, .....	Schuylkill, .....	Back and leg severely bruised. Fell under car.
19	James Canfield, .....	Irish, .....	Laborer, .....	38	M	Hammond, .....	Schuylkill, .....	Leg fractured by fall of slate.
19	Jack Offshore, .....	Polish, .....	Laborer, .....	25	S	Cambridge, .....	Schuylkill, .....	Leg fractured. Piece of coal rolled against him.
20	Andy Weslowski, .....	Polish, .....	Laborer, .....	20	S	Shenandoah City, .....	Schuylkill, .....	Body contused. Keps were in place at the upper landing, and the cage at a high momentum struck the landing, throwing him and the following eight men out of the cage.
20	Steve Kaupa, .....	Polish, .....	Miner, .....	30	M	Shenandoah City, .....	Schuylkill, .....	Body contused; thrown out of cage.
20	Christ Rutkavage, .....	Polish, .....	Laborer, .....	33	M	Shenandoah City, .....	Schuylkill, .....	Body contused; thrown out of cage.
20	William Bocufski, .....	Polish, .....	Miner, .....	33	M	Shenandoah City, .....	Schuylkill, .....	Leg fractured; thrown out of cage.
20	Charles Dick, .....	American, .....	Loco engineer, .....	23	S	Shenandoah City, .....	Schuylkill, .....	Body contused; thrown out of cage.
20	Joseph Petusavage, .....	Polish, .....	Laborer, .....	22	S	Shenandoah City, .....	Schuylkill, .....	Body contused; thrown out of cage.
20	William Chesman, .....	Polish, .....	Miner, .....	39	M	Shenandoah City, .....	Schuylkill, .....	Leg fractured; thrown out of cage.
20	John Reppecka, .....	Polish, .....	Laborer, .....	24	S	Shenandoah City, .....	Schuylkill, .....	Body contused; thrown out of cage.
20	Mike Muleskee, .....	Polish, .....	Laborer, .....	21	S	Shenandoah City, .....	Schuylkill, .....	Body contused; thrown out of cage.
28	Felix Andrejavit, .....	Polish, .....	Miner, .....	23	S	Shenandoah City, .....	Schuylkill, .....	Body contused; thrown out of cage.
29	John Sheddin, .....	American, .....	Miner, .....	17	S	Shenandoah City, .....	Schuylkill, .....	Leg fractured by a fall of coal.
Feb. 7	Patrick Canfield, .....	American, .....	Scrapper boy, .....	18	S	Kehley's Run, .....	Schuylkill, .....	Leg fractured by being caught in scraper line. Outside.
15	William Duntap, .....	American, .....	Spragger, .....	18	S	Packer No. 5, .....	Schuylkill, .....	Skull fractured; kicked by a mule.
March 1	Samuel O'Brien, .....	American, .....	Driver, .....	19	S	Packer No. 4, .....	Schuylkill, .....	Skull fractured; kicked by a mule.
April 2	William Jones, .....	Welsh, .....	Slate picker, .....	15	S	.....	Schuylkill, .....	Head bruised and hand cut; fell down bony chute. Outside.
21	Edward Matthews, .....	American, .....	Miner, .....	42	M	Draper, .....	Schuylkill, .....	Arm broken by a fall of rock.
4	Matt. Dobrilli, .....	American, .....	Driver, .....	18	M	Draper, .....	Schuylkill, .....	Head and body bruised; caught between cage and timber.
19	William Balavage, .....	Lithuanian, .....	Miner, .....	42	M	Draper, .....	Schuylkill, .....	Head bowed with dynamite.
30	Simon Straub, .....	Russian, .....	Miner, .....	37	M	Packer No. 2, .....	Schuylkill, .....	Severely injured on side and leg by a fall of coal.
		American, .....	Loader boss, .....	40	M	Bast, .....	Schuylkill, .....	Leg fractured; struck by a piece of timber in gangway.



TABLE 5.—Continued

Date of accident	Name of Person		Nationality	Occupation	Age	Married or single	Name of Mine		County	Nature and Cause of Accident in Brief
May	4	Harold Goodhead, .....	American, .....	Oiler, .....	16	S.	West Shenandoah, ..	Schuykill,....		Leg fractured; mine car ran over him. Outside.
	11	William Colismiskie, ..	Lithuanian,....	Laborer, .....	30	M.	Indian Ridge, .....	Schuykill,....		Leg fractured by fall of slate.
	18	Hugh Duffy, .....	Irish, .....	Car runner, ..	53	S.	Kohinoor, .....	Schuykill,....		Leg fractured; amputated at hospital; caught between cars. Outside.
	21	William Thomas, .....	American, .....	Miner, .....	49	M.	Packer No. 5, .....	Schuykill,....		Leg fractured by a rush of coal at breast battery.
June	24	Joseph Prochensky, .....	Polish, .....	Laborer, .....	26	M.	Turkey Run, .....	Schuykill,....		Leg fractured; caught between two mine cars.
	24	Edward Price, .....	American, .....	Laborer, .....	40	M.	East, .....	Schuykill,....		Arm broken; boiler fell on him. Outside.
	4	John Grabulskie, .....	Lithuanian,....	Miner, .....	33	M.	Shenandoah City, ..	Schuykill,....		Severely squeezed about body; cage came down on him.
	7	Michael Kellegher, .....	Irish, .....	Laborer, .....	40	S.	Furnace, .....	Schuykill,....		Body severely squeezed between car and rib.
	8	Adam Durski, .....	Lithuanian,....	Laborer, .....	26	S.	William Penn, .....	Schuykill,....		Fracture of clavicle; caught between two cars. Outside.
	17	Vally Hornish, .....	Russian, .....	Miner, .....	27	M.	Packer No. 5, .....	Schuykill,....		Both arms broken; squeezed between car and rib.
	17	Alex. Zewitskie, .....	Polish, .....	Laborer, .....	23	S.	West Shenandoah, ..	Schuykill,....		Foot crushed trying to jump on moving car.
	20	Walter Stenkenitz, .....	Lithuanian,....	Laborer, .....	23	S.	William Penn, .....	Schuykill,....		Foot crushed by fall of coal.
July	20	George Chernosky, .....	Lithuanian,....	Miner, .....	26	M.	Draper, .....	Schuykill,....		Finger cut off by fall of slate.
	23	Charles Foucaetskie, ..	Polish, .....	Laborer, .....	52	M.	Indian Ridge, .....	Schuykill,....		Arm broken by fall of coal.
	8	Martin Burns, .....	American, .....	Driver, .....	18	S.	William Penn, .....	Schuykill,....		Contusion of pelvis; caught between mine car and door.
Aug.	8	Michael Terrence, .....	American, .....	Laborer, .....	17	S.	William Penn, .....	Schuykill,....		Abdomen severely bruised and leg crushed by fall of coal.
	9	Peter Homorris, .....	Polish, .....	Miner, .....	32	S.	Packer No. 5, .....	Schuykill,....		Leg fractured by fall of coal.
	23	Peter Davis, .....	American, .....	Footman, .....	19	S.	Packer No. 3, .....	Schuykill,....		Half of foot cut off; rope broke and car ran back on him.
Sept.	17	William Samuels, .....	Welsh, .....	Repairman, ..	33	M.	Kohinoor, .....	Schuykill,....		Leg fractured; pine fell on him.
Oct.	19	Stiney Nowalskie, .....	Polish, .....	Miner, .....	30	S.	Indian Ridge, .....	Schuykill,....		Leg fractured by a fall of coal.
	13	William Chissavage, .....	Lithuanian,....	Miner, .....	45	M.	Draper, .....	Schuykill,....		Hands and face burned by an explosion of gas.

Nov.	21	John Whittaker, .....	American, .....	Driver, .....	26	S.	Kohlmor, .....	Schuylkill, .....	Back severely squeezed; gangway collar fell on him.
	1	Peter Diss, .....	Polish, .....	Laborer, .....	25	S.	Brighton washery, .....	Schuylkill, .....	Leg fractured by a slide of culm bank, outside.
	11	William Garcillas, .....	Lithuanian, .....	Miner, .....	30	S.	Packer No. 3, .....	Schuylkill, .....	Body and face cut by a premature explosion.
	22	William Cevalskis, .....	Lithuanian, .....	Laborer, .....	20	S.	Draper, .....	Schuylkill, .....	Hands and face burned by an explosion of gas.
	28	Patrick Gaughan, .....	American, .....	Laborer, .....	20	S.	Packer No. 5, .....	Schuylkill, .....	Hands and face burned by an explosion of gas.
	28	Joseph Williams, .....	American, .....	Starter, .....	28	M.	Packer No. 5, .....	Schuylkill, .....	Hands and face burned by an explosion of gas.
Dec.	9	Anthony Semofsky, .....	Greek, .....	Laborer, .....	25	S.	Turkey Run, .....	Schuylkill, .....	Arm and leg fractured by a fall of coal.
	23	Anthony Barotus, .....	Lithuanian, .....	Miner, .....	34	M.	Indian Ridge, .....	Schuylkill, .....	Both legs fractured by a fall of slate.
	29	John Schultz, .....	Polish, .....	Miner, .....	35	S.	Hammond, .....	Schuylkill, .....	Face and hands severely lacerated by a premature blast.

## IMPROVEMENTS

## PHILADELPHIA AND READING COAL AND IRON COMPANY

Draper Colliery.—Eight new egg coal jigs have been erected at breaker; two new No. 14 shakers for steamboat and broken coal; two new No. 3 shakers for egg and stove coal; four slate shakers for egg coal jig No. 7; two new No. 3 shakers for rice coal; one new mud shaker No. 14 to remove rice from slush, and No. 3 shaker to remove rice from slush; an extension to west wing of breaker; one seven ton locomotive for rock and slate bank; one 9x38 inch pump for coal washing; one Barr pump for boiler feed; one set (2) tubular boilers, 6 feet x 18 feet, with stacks.

Tunnel from Mammoth to Holmes seam fourth lift, 433 feet long, 7½ feet high and 12 feet wide.

Tunnel from Diamond North Dip to Diamond South Dip No. 2 lift, 170 feet long, 7½ feet high and 12 feet wide.

Tunnel from Mammoth to Buck Mountain seam No. 4 slope, 175 feet long, 7 feet high and 10 feet wide.

Tunnel from Diamond South Dip to Orchard South Dip, 88 feet long, 7½ feet high and 12 feet wide.

Gilberton Colliery.—Additional boiler house with six (6) tubular boilers, two Barr pumps, heaters, blast fan engine. Boiler house 65x54 feet and 16 feet high. Pump house 84x28x16 feet. Exhaust pipe line 12 inches 480 feet long from breaker to new boiler house. Steam line 8 inches 440 feet long from new boilers to breaker.

Fuel line from breaker to new boiler house 300 feet. New rock conveyor 300 feet long. New iron fan, diameter 21 feet. Extension of tender slope, 300 feet, 8 feet high and 20 feet wide. Tunnel across basin from Holmes seam to Holmes fourth lift, length 120 feet, 7½ feet high and 12 feet wide.

Bear Ridge Colliery.—Scraper line 24 inches 250 feet long, with 90 feet of trestle crossing railroad, for removing culm banks.

Indian Ridge Colliery.—A new Duplex pump, 18x48 inch, has been put in at bottom of shaft, also a 10x18 inch pump in Buck Mountain shaft.

A tunnel has been driven 215 feet from the seven foot to south dip of Mammoth seam.

West Shenandoah Colliery.—A pump house has been made in the rock on the fourth lift, dimensions 95x21x16 feet, and a 12x48 inch Duplex compound pump, Jeanesville steam end and Philadelphia and Reading water end, high pressure cylinder 19 inch, low pressure cylinder 36 inch. Another pump of the same type is under construction. A tender slope has been sunk to the fourth level to be used

as an accommodation opening to lower and hoist men and a steam and column pipe way.

Kohinoor Colliery.—An 8 inch bore hole has been sunk from the surface to the seven-foot seam, a distance of 427 feet through which a rope passes to hoist from No. 4 and 6 slopes. The dump on top of shaft has been taken away and a new head frame erected. The top of shaft has been concreted to a depth of 60 feet. A car hoist has been installed to hoist the loaded cars to an elevation sufficient to cause them to gravitate to the breaker.

#### LEHIGH VALLEY COAL COMPANY

Packer No. 2 Colliery.—A new lift has been sunk 332 feet in bottom split of Mammoth seam called the fifth level. A tunnel has been driven in west gangway fourth level from Buck Mountain to Buck Mountain vein through a fault, distance 160 feet. A new fan, diameter 20 feet, blades 6 feet wide, depth 5 feet. Two new tubular boilers 150 horse power each. One new pump 22x10x36 inches Cameron type has been installed to pump wash water to number four breaker.

#### SUSQUEHANNA COAL COMPANY

William Penn Colliery.—Erected new air compressors. Tunnel from Skidmore seven foot vein thirty three yards in No. 2 drift. Tunnel from Primrose to Orchard vein, fifty-four yards in No. 1 shaft. Tunnel from Holmes to Primrose vein twenty-seven yards in No. 1 slope.

Tunnel from Mammoth to Four Foot vein, 32 yards in No. 1 slope.

#### Mine Foremen's Examinations

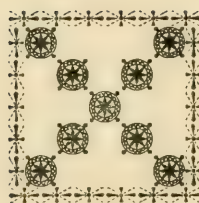
The following is a list of the persons who successfully passed the examinations:

##### Mine Foremen

Frank Dewey, Ashland; Richard K. J. Boelcke, Shenandoah; Thomas Stack, Shenandoah; Benjamin F. Jones, Shenandoah; Charles H. Zimmerman, Shenandoah.

##### Assistant Mine Foremen

John McQuade, Shenandoah.





# Eleventh District

SCHUYLKILL COUNTY

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Mahanoy City, Pa., February 28, 1905.

Hon. James E. Roderick, Chief of Department of Mines:

Sir: I have the honor to transmit herewith my annual report as Inspector of Mines of the Eleventh Anthracite District for the year 1904.

The tables contain the statistics relative to production, number of employes, days worked, accidents, etc. A brief description of the condition of the collieries of the district is also given.

Respectfully submitted,

P. C. FENTON,  
Inspector.

## SUMMARY OF STATISTICS

Number of collieries, .....	13
Number of mines, .....	18
Number of mines in operation, .....	18
Number of tons of coal shipped to market, .....	3,303,666
Number of tons used at mines for steam and heat, .....	462,416
Number of tons sold to local trade and used by employes, .....	46,895
Number of tons of coal produced, .....	3,812,977
Number of persons employed inside of mines, .....	5,800
Number of persons employed outside, .....	3,328
Number of fatal accidents inside of mines, .....	31
Number of fatal accidents outside, .....	3
Number of non-fatal accidents inside of mines, .....	42
Number of non-fatal accidents outside, .....	8
Number of tons of coal produced per fatal accident inside, .....	122,999
Number of persons employed per fatal accident inside, .....	187
Number of persons employed per fatal accident outside, .....	1,109
Number of persons employed per non-fatal accident inside, .....	138
Number of persons employed per non-fatal accident outside, .....	416
Number of wives made widows by fatal accidents, .....	17
Number of children orphaned by fatal accidents, .....	46
Number of steam locomotives used inside of mines, .....	1
Number of steam locomotives used outside, .....	15
Number of compressed air locomotives used inside, .....	11
Number of electric motors used inside, .....	3
Number of fans used for ventilation, .....	20
Number of gaseous mines in operation, .....	18
Number of new mines opened, .....	2

## TABLE A

## PRODUCTION OF COAL

Names of Operators	Tons
Philadelphia and Reading Coal and Iron Company, . . . . .	3,034,045
Lentz and Company, . . . . .	403,981
Lehigh Valley Coal Company, . . . . .	212,068
Silver Brook Coal Company, . . . . .	86,116
Crystal Run Coal Company, . . . . .	76,767
Total, . . . . .	<u>3,812,977</u>

## Production by Counties

Schuylkill, . . . . .	<u>3,812,977</u>
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TABLE B.—Fatal and non-fatal accidents inside and outside of mines; number of tons of coal produced per accident; number of persons employed; number employed per accident; number of

Names of Operators	Fatal Accidents			Non-Fatal Accidents			Tons of coal produced per fatal accident inside	Number of employees inside	Number of employees outside	Total number of employees	Number of employees inside per fatal accident	Number of employees outside per fatal accident	Number of employees inside per non-fatal accident	Number of employees outside per non-fatal accident
	Inside	Outside	Total	Inside	Outside	Total								
Philadelphia and Reading Coal and Iron Co....	21	2	23	32	4	36	94,814	1,403	2,701	7,103	381	1,370	138	675
Lentz and Co.....	11	.....	11	4	2	6	100,995	632	226	858	316	.....	158	113
Lehigh Valley Coal Co., .....	.....	1	1	3	.....	3	70,681	415	161	576	83	161	138	.....
Silver Brook Coal Co., .....	.....	.....	.....	3	1	4	43,458	298	161	361	.....	.....	161	161
Crystal Run Coal Co., .....	.....	.....	.....	1	1	2	76,768	142	89	232	.....	.....	144	89
Totals and averages for district, .....	31	3	34	42	8	50	90,785	5,800	3,328	9,128	187	1,109	138	195





TABLE D.—Classification of non-fatal accidents inside and outside of mines

	Inside										Outside										Grand total			
	By Falls of			By mine cars	By explosion of gas	Smothered by gas	By powder and dynamite	By blasts, etc.	Shafts	Slopes	Manways, breasts, etc.	Crushed at batteries	By mules	Suffocated by coal, etc.	Miscellaneous causes	Total inside	By cars	By machinery	By suffocation	By boiler explosions		Miscellaneous causes	Total outside	
	Coal	Slate	Roof																					
January	1				1			1									9	1	1				1	11
February					2			1									2	1	4			1	1	4
March	3							3									3	1	4				1	7
April																	1	2	4				1	7
May																	1	1	4				1	6
June	3				3					1							11	1	2				1	15
July		1					1	1									7	1	1				1	10
August																	2	1	1				1	5
September	1																1	1	1				1	4
October																	1	1	1				1	4
November					1												1	1	1				1	4
December	1				2			2									3	4	2				1	10
Totals	11	2			10		3	6		1						4	42	4	2			2	8	50

TABLE E.—Occupations of persons killed or fatally injured inside and outside of mines

	Inside										Outside							Grand total	
	Mine foremen	Assistant mine foremen	Fire bosses and assistants	Miners	Miners' laborers	Drivers and runners	Door-boys and helpers	Pumpmen	Company men	All other employees	Total inside	Superintendents	Blacksmiths and carpenters	Engineers and firemen	Slate pickers (boys)	Slate pickers (men)	Book-keepers and clerks		All other employees
January, .....	..	..	..	1	1	..	..	..	..	5	6	..	..	..	..	..	..	..	6
February, .....	..	1	..	..	..	..	..	..	..	1	1	..	1	..	..	..	..	1	1
March, .....	..	..	..	3	..	..	..	..	..	..	1	..	..	..	..	..	..	..	2
April, .....	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1
May, .....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
June, .....	..	..	..	1	..	..	..	..	..	1	2	..	..	..	..	..	..	..	3
July, .....	..	..	..	1	1	..	..	..	..	1	3	..	..	..	..	..	..	..	4
August, .....	..	..	..	1	..	..	..	..	..	..	3	..	..	..	..	..	..	..	3
September, .....	..	..	..	1	..	..	..	..	3	..	3	..	..	..	..	..	..	..	3
October, .....	..	..	..	..	..	..	..	..	..	1	2	..	..	..	..	..	..	1	3
November, .....	..	..	..	1	3	..	..	..	..	..	5	..	..	..	..	..	..	..	6
December, .....	..	..	..	2	..	..	..	..	..	..	3	..	..	..	..	..	..	..	5
Totals, .....	1	..	..	12	6	..	..	..	3	9	31	..	1	..	..	..	..	2	24

TABLE F.—Occupations of persons injured inside and outside of mines

	Inside										Outside											
	Mine foremen	Assistant mine foremen	Fire bosses and assistants	Miners	Miners' laborers	Drivers and runners	Door-boys and helpers	Pumpmen	Company men	All other employees	Total inside	Superintendents	Foremen	Blacksmiths and carpenters	Engineers and firemen	State pickers (boys)	State pickers (men)	Book-keepers and clerks	All other employees	Total outside	Grand total	
January			1	1	1				1		1										1	1
February																						
March			1	1	1				1		1											1
April			1	1	1				1		1					1						1
May			1	1	1				1		1											1
June				1	1	2					1											1
JULY				1	1	2					1											1
August				1	1	1			1		1											1
September				1	1	1			1		1											1
October				1	1				1		1											1
November																						
December																						
Totals			12	22	2	4	2		5	1	42				1	1			6	8	50	

TABLE G.—Nationality of Persons Killed or Fatally Injured Inside and Outside of Mines

	American	English	Welsh	Irish	German	Polish	Hungarian	Italian	Lithuanian	Totals
January, .....	1		1		1		1		2	6
February, .....					1				1	2
March, .....	1	1		2				1		5
April, .....						1				1
May, .....										
June, .....	1								1	2
July, .....					1	2				3
August, .....				1					1	2
September, .....	2					1				3
October, .....										
November, .....	1									1
December, .....						12				12
Totals, .....	6	1	1	3	3	11	1	1	4	34

TABLE H.—Nationality of Persons Injured Inside and Outside of Mines

	American	English	Welsh	Scotch	Irish	German	Polish	Hungarian	Lithuanian	Russian	Totals
January, .....					1				1		2
February, .....	2	1					1				4
March, .....	4				1						5
April, .....			1				1	2			4
May, .....	1			1							2
June, .....	3				1		7				11
July, .....						2	3		1	1	7
August, .....					1						1
September, .....				1			1				2
October, .....	1								1		2
November, .....						1					1
December, .....							6	1			7
Totals, .....	11	1	1	2	4	3	21	3	3	1	50

TABLE I.—Operators and mines, kind of openings, type and size of fans, size of furnaces, volume of air produced by fan or furnace per minute, number of splits of air currents, number of persons employed inside, and quantity of air produced for each person per minute

Names of Operators and Mines	Kind of opening	Gaseous or non-gaseous	Method of ventilation	Diameter of fan in feet	Width of blades in feet	Depth of blades in feet	Number of revolutions per minute	Water gauge developed—inches	Name of fan	Power used	Number of splits of air currents	Number of cubic feet of air per minute entering the mine at inlet	Total quantity of air per splits in cubic feet	Number of cubic feet per minute passing out at outlet	Number of persons employed inside	Average number of cubic feet per minute provided for each person
Philadelphia and Reading Coal and Iron Co.	Slope, ...	Gaseous, ...	Fan, ...	18	6.6	6	95	1	Guibal, ...	Steam, ...	8	62,645	55,105	65,394	160	344
	Shaft, ...	Gaseous, ...	Fan, ...	20	6.6	6	80	1	Guibal, ...	Steam, ...	10	94,500	80,000	125,000	345	360
	Slope, ...	Gaseous, ...	Fan, ...	15	5.6	4	70	2	Guibal, ...	Steam, ...	5	15,500	15,000	15,000	345	240
	Shaft, ...	Gaseous, ...	Fan, ...	21	6.6	6	95	2	Guibal, ...	Steam, ...	5	73,747	59,904	90,539	288	288
	Shaft, ...	Gaseous, ...	Fan, ...	21	6.6	6	80	2	Guibal, ...	Steam, ...	10	88,993	59,000	98,543	222	225
	Slope, ...	Gaseous, ...	Fan, ...	18	6.6	5½	85	2	Guibal, ...	Steam, ...	7	26,250	18,000	30,460	88	205
	Slope, ...	Gaseous, ...	Fan, ...	13	6.6	5½	55	1	Guibal, ...	Steam, ...	6	46,300	22,660	49,850	105	210
	Slope, ...	Gaseous, ...	Fan, ...	21	6.6	6	95	1	Guibal, ...	Steam, ...	6	40,175	34,795	42,330	115	302
	Slope, ...	Gaseous, ...	Fan, ...	21	6.6	6	65	1	Guibal, ...	Steam, ...	10	125,000	60,110	135,650	139	432
	Slope, ...	Gaseous, ...	Fan, ...	21	7	6.3	70	2	Whiting, ...	Steam, ...	6	166,943	68,000	180,000	286	288
	Slope, ...	Gaseous, ...	Fan, ...	21	7	6.6	65	1	Guibal, ...	Steam, ...	8	83,000	60,000	90,000	108	576
	Slope, ...	Gaseous, ...	Fan, ...	21	7.6	6.3	80	2	Guibal, ...	Steam, ...	8	125,810	69,730	132,010	212	329
Lentz and Co.	Slope, ...	Gaseous, ...	Fan, ...	16	4	4.6	80	2	Guibal, ...	Steam, ...	6	110,000	90,000	112,000	143	629
	Slope, ...	Gaseous, ...	Fan, ...	15	4	4	70	1	Guibal, ...	Steam, ...	4	53,000	38,000	55,000	201	189
	Slope, ...	Gaseous, ...	Fan, ...	16	4	4.6	90	1	Guibal, ...	Steam, ...	5	49,000	40,000	49,000	92	490
	Slope, ...	Gaseous, ...	Fan, ...	10	3.6	4.3	110	1	Guibal, ...	Steam, ...	6	60,000	52,000	60,000	146	356
Lehigh Valley Coal Co.	Slope, ...	Gaseous, ...	Fan, ...	16	4	4.6	90	1	Guibal, ...	Steam, ...	5	49,000	40,000	49,000	92	490
	Slope, ...	Gaseous, ...	Fan, ...	10	3.6	4.3	110	1	Guibal, ...	Steam, ...	6	60,000	52,000	60,000	146	356
Silver Brook Coal Co.	Slope, ...	Gaseous, ...	Fan, ...	18	5	8	60	2	Guibal, ...	Steam, ...	4	35,000	10,000	37,000	45	222
	Slope, ...	Gaseous, ...	Fan, ...	14	4	7	55	2	Guibal, ...	Steam, ...	4	35,000	10,000	37,000	45	222
Crystal Run Coal Co.	Slope, ...	Gaseous, ...	Fan, ...	8	3.9	1.9	50	½	Guibal, ...	Steam, ...	2	16,000	10,000	18,000	32	313
	Slope, ...	Gaseous, ...	Fan, ...	16	4.6	4.6	65	5-10	Guibal, ...	Steam, ...	2	21,500	20,500	23,500	75	273



TABLE 1.—Operators, location of collieries, railroads, etc.

Names of Operators and Collieries	County	Name of General Superintendent	Post Office	Name of Superintendent	Post Office	Railroad to Mine
Philadelphia and Reading Coal and Iron Co.	Schuylkill,....	William J. Richards,	Pottsville, .....	John Veith, .....	Pottsville, .....	P. and R.
Kelkerbocker, .....						
Bhangowan, .....						
Rock Hill, .....						
Suffolk, .....						
Saint Nicholas, .....						
Boston Run, .....						
Tunnel Ridge, .....						
Mahanoy City, .....	Schuylkill,....	Edward Reese, .....	Mahanoy City, ....	James Reese, .....	Park Place, .....	Lehigh Valley
North Mahanoy, .....						
Lentz and Co.						
Park Place, .....						
Lehigh Valley Coal Co.						
Primrose, .....						
Silver Brook Coal Co.						
Silver Brook, .....						
Crystal Run Coal Co. Broad Mountain, .....	Schuylkill,....	John L. Williams, ....	1109 Girard Trust Building, Phila.	James Tinely, ....	Tamaqua, .....	Lehigh Valley
	Schuylkill,....	John L. Williams, ....	Frackville, .....	Thomas H. Williams.	Frackville, .....	P. and R.

TABLE 2.—Number of tons of coal mined, number of persons employed, number killed and injured, quantity of powder and dynamite used, etc.

Names of Operators and Collieries	County	Number of tons of coal shipped to market	Number of tons used at collieries for steam and heat	Number and used by employees	Number of employees	Number of fatal accidents	Number of non-fatal accidents	Number of kegs of powder used	Number of pounds of dynamite used	Number of horses and mules
Philadelphia and Reading Coal and Iron Co.		183,806	27,132	1,011	211,649	297	68	2,208	35,422	
Knickbocker.		390,633	41,245	476	462,444	257	107	14,099	31,766	11
Ellangowan.		627,760	32,731	.....	695,491	266	4	19,031	44,800	11
Maple Hill.		332,426	26,761	1,323	355,724	286	3	9,533	23,677	88
Suffolk.		399,924	36,212	332	333,436	419	11	1,631	2,533	73
Saint Nicholas.		46,190	36,190	25	139,136	211	.....	1,370	45,921	57
Boston Run.		272,325	66,015	.....	338,350	248	3	4,468	15,451	62
Tunnel Ridge.		104,890	32,548	33,348	170,776	218	489	2,806	18,864	70
Mahanoy City.		374,486	44,223	3,111	421,829	261	3	6,669	26,165	57
North Mahanoy.		.....	.....	.....	.....	.....	.....	.....	.....	.....
Totals.		2,646,925	348,487	39,523	3,034,045	247	7,103	64,788	237,186	645
Park Place.	Lehigh and Co.	353,067	49,249	1,665	403,981	246	588	9,881	39,676	102
Primrose.	Lehigh Valley Coal Co.	185,313	23,680	3,075	212,068	425	576	6,781	22,719	64
Silver Brook.	Silver Brook Coal Co.	63,584	21,000	1,532	86,116	192	369	1,063	15,036	50
Broad Mountain.	Crystal Run Coal Co.	55,677	20,000	1,090	76,767	267	222	875	14,200	29
Grand totals.		3,393,666	462,416	46,895	3,812,577	242	9,128	82,418	428,591	861

TABLE 2.—Recapitulation

Philadelphia and Reading Coal and Iron Co., ....	2,646,025	348,487	30,533	3,034,045	247	7,102	26	36	64,798	337,486	647
Lehigh Valley Coal Co., .....	553,067	49,249	1,665	403,981	256	858	9	6	9,881	39,650	102
Lehigh Valley Coal Co., .....	185,313	23,680	3,675	212,068	246	576	6	3	6,781	22,519	64
Silver Brook Coal Co., .....	62,384	21,000	1,532	86,116	192	369	.....	3	1,083	15,036	39
Crystal Run Coal Co., .....	35,677	20,000	1,660	76,767	267	222	.....	2	875	14,200	20
Totals, .....	3,392,666	462,416	46,865	3,812,977	242	9,128	34	50	83,418	428,561	861

TABLE 2.—Continued

Names of Operators	County	Number of Boilers				Locomotives			Total horse power	Number of steam engines of all classes	Total horse power	Number of pumps delivering water to surface	Capacity in gallons per minute	Quantity delivered to surface per minute—gallons	Number of electric dynamos	Number of air compressors
		Cylindrical	Horse power	Tubular	Horse power	Total horse power	Steam	Air	Electric							
Philadelphia and Reading Coal and Iron Co.,	Schuylkill	32	960	150	19,500	20,460	11	11	.....	155	27,020	31	41,746	23,650	.....	9
Lentz and Co.,		.....	.....	12	3,250	3,250	2	.....	.....	33	1,910	3	4,800	.....	.....	.....
Lehigh Valley Coal Co.,		.....	.....	10	1,500	1,500	1	.....	.....	18	1,600	1	1,440	.....	1	.....
Silver Brook Coal Co.,		.....	.....	8	1,250	1,250	2	.....	.....	19	1,240	7	6,500	6,000	.....	2
Crystal Run Coal Co.,		.....	.....	8	920	920	.....	.....	.....	14	600	2	780	400	.....	.....
Totals,	.....	32	960	189	26,420	27,380	16	11	3	239	32,370	44	55,266	30,490	1	11





TABLE 3.—Recapitulation

Name of operators	County	Inside										Outside										Grand totals inside and outside
		Mine foremen	Assistant mine foremen	Fire bosses and assistants	Miners	Miners' laborers	Drivers and runners	Door boys and helpers	Pumpmen	Company men	All other employes	Total inside	Superintendents	Foremen	Blacksmiths and carpenters	Engineers and firemen	State pickers (boys)	State pickers (men)	Book-keepers and clerks	All other employes	Total outside	
Philadelphia and Reading Coal and Iron Co., .....	Schuylkill	19	8	64	1,389	1,213	279	104	19	315	1,002	4,403	...	8	65	229	837	351	26	1,164	2,760	7,163
Lentz Coal Co., .....		1	1	4	250	214	48	6	12	43	71	632	2	1	22	55	15	92	5	54	226	2,878
Lehigh Valley Coal Co., .....		1	1	3	175	48	35	5	4	...	144	415	...	1	9	16	42	11	2	72	161	556
Silver Brook Coal Co., .....		1	1	1	81	46	19	6	6	...	51	268	1	1	14	13	47	32	...	50	161	569
Crystal Run Coal Co., .....		1	1	1	54	31	11	1	5	37	...	142	1	1	5	1	18	...	1	42	80	222
Totals, .....		15	12	73	1,929	1,552	392	118	46	325	1,298	5,800	4	12	115	345	979	489	37	1,387	2,328	9,128



TABLE 4.—Fatal accidents inside and outside of mines

Date of accident	Name of Person	Nationality	Occupation	Age	Married or single	Number of widows	Number of orphans	Name of Mine	County	Nature and Cause of Accident in Brief
Jan. 8	Jeanis Brennan, .....	American, ..	Laborer, ...	24	S.	...	...	Primrose, .....	Schuykill,....	Instantly killed by a fall of slate.
30	Morgan Jones, .....	Welsh, .....	Chargeman, ..	36	M.	1	...	Maple Hill, .....	Schuykill,....	Instantly killed by an explosion of dynamite.
30	John Mackey, .....	German, .....	Machinist, ..	34	M.	1	1	Maple Hill, .....	Schuykill,....	Instantly killed by an explosion of dynamite.
30	Adam Savige, .....	Lithuanian, ..	Machinist, ..	24	S.	...	...	Maple Hill, .....	Schuykill,....	Instantly killed by an explosion of dynamite.
30	John Uhaw, .....	Hungarian, ..	Machinist, ..	23	S.	...	...	Maple Hill, .....	Schuykill,....	Instantly killed by an explosion of dynamite.
30	Joseph Junas, .....	Lithuanian, ..	Machinist, ..	28	S.	...	...	Maple Hill, .....	Schuykill,....	Instantly killed by an explosion of dynamite.
Feb. 1	Christian Mack, .....	German, .....	Miner, .....	36	M.	1	6	North Mahanoy, ..	Schuykill,....	Instantly killed by a fall of coal.
17	Frank Ieschinski, .....	Lithuanian, ..	Miner, .....	28	S.	...	...	Tunnel Ridge, ...	Schuykill,....	Instantly killed by a fall of coal.
March 2	Capello Bonfache, .....	Italian, .....	Blacksmith, ..	35	M.	1	5	Maple Hill, .....	Schuykill,....	Instantly killed by being caught between fly wheel and engine. Outside.
5	Andrew Lutch, .....	Lithuanian, ..	Loader, .....	26	M.	1	2	Suffolk, .....	Schuykill,....	Legs fractured; caught between mine cars.
8	Frank Pruscavage, .....	Lithuanian, ..	Miner, .....	35	M.	1	2	Tunnel Ridge, ...	Schuykill,....	* Died at State Hospital March 6.
9	Nicholas Hackett, .....	Irish, .....	Miner, .....	28	S.	...	...	Tunnel Ridge, ...	Schuykill,....	Instantly killed by a fall of coal.
9	Thomas Mulvey, .....	Irish, .....	Miner, .....	31	S.	...	...	Tunnel Ridge, ...	Schuykill,....	Instantly killed by an explosion of gas. Burned by an explosion of gas. Died March 14.
14	Stephen Terril, .....	American, ..	Asst. foreman, ..	54	M.	1	6	Tunnel Ridge, ...	Schuykill,....	Instantly killed by an explosion of gas.
19	Daniel Derricot, .....	English, .....	Rockman, ..	29	S.	...	...	Primrose, .....	Schuykill,....	Instantly killed by car running over him.
April 12	John Ludrkus, .....	Polish, .....	Miner, .....	23	M.	1	...	Maple Hill, .....	Schuykill,....	Internally injured by a premature blast. Died at State Hospital April 29.
June 6	John Wertz, .....	American, ..	Blacksmith, ..	40	M.	1	4	North Mahanoy, ..	Schuykill,....	Instantly killed by a trip of cars running over him.
July 17	Robert Danovich, .....	Lithuanian, ..	Miner, .....	31	M.	1	3	Maple Hill, .....	Schuykill,....	Instantly killed by a fall of coal.
11	Chas. Kelpo, .....	German, .....	Loader, .....	21	S.	...	...	Ellaugowan, .....	Schuykill,....	Internally injured by a fall of coal. at State Hospital.
14	John Alex, .....	Polish, .....	Miner, .....	35	M.	1	1	Park Place, .....	Schuykill,....	Instantly killed by a fall of coal.
20	George Shlcavage, .....	Polish, .....	Laborer, ...	41	M.	1	7	Suffolk, .....	Schuykill,....	Instantly killed by a fall of coal.

Aug.	11	Anthony Wawel, .....	Lithuanian, ..	Laborer, ...	24	S. ....	.....	Knickerbocker, ...	Schuykill, .....	Instantly killed by being caught between cars and timber.
Sept.	29	John Smith, .....	Irish, .....	Miner, .....	40	M. ....	1	5 Mahanoy City, ...	Schuykill, .....	Instantly killed by a fall of coal.
	17	Silas Blackwell, .....	American, ..	Timberman, ...	46	S. ....	.....	Primrose, .....	Schuykill, .....	Burned by an explosion of gas. Died at State Hospital.
	17	John Coplay, .....	American, ..	Timberman, ...	61	M. ....	1	..... Primrose, .....	Schuykill, .....	Burned by an explosion of gas. Died at home.
Nov.	17	William Lucash, .....	Polish, .....	Timberman, ...	32	S. ....	.....	Primrose, .....	Schuykill, .....	Burned by an explosion of gas. Died at home same day.
	3	Michael Bushnick, ....	Polish, .....	Laborer, ...	55	M. ....	1	Park Place, .....	Schuykill, .....	Instantly killed by fall of slate.
	7	Samuel Wesner, .....	American, ..	Laborer, ...	54	M. ....	1	Boston Run, .....	Schuykill, .....	Instantly killed by being struck by a mine dumper. Cutside.
	11	Peter Federofski, .....	Polish, .....	Laborer, ...	30	S. ....	.....	Suffolk, .....	Schuykill, .....	Instantly killed by falling down slope in chain.
	11	Stiney Seduski, .....	Polish, .....	Leader, ...	30	S. ....	.....	Maple Hill, .....	Schuykill, .....	Instantly killed by a rush of coal.
Dec.	14	John Morgan, .....	Polish, .....	Laborer, ...	40	S. ....	.....	Mahanoy City, ...	Schuykill, .....	Instantly killed by a fall of slate.
	28	Joe Muscavage, .....	Polish, .....	Miner, .....	32	M. ....	.....	Primrose, .....	Schuykill, .....	Internally injured by falling down breast. Died at State Hospital, December 15.
	1	John Burba, .....	Polish, .....	Miner, .....	40	M. ....	.....	Elangowan, .....	Schuykill, .....	Burned by powder. Died at State Hospital, December 10.
	27	Enoch Mercavage, .....	Polish, .....	Miner, .....	40	M. ....	1	4 Maple Hill, .....	Schuykill, .....	Smothered by a rush of coal.

TABLE 5.—Non-fatal accidents inside and outside of mines

Date of accident	Name of Person	Nationality	Occupation	Age	Married or single	Name of Mine	County	Nature and Cause of Accident in Brief
Jan.	8 John Downey, .....	Irish, .....	Locomotive conductor, .....	16	S.	Knickerbocker, .....	Schuylkill, .....	Head squeezed between mine cars, Outside.
Feb.	9 Michael Popow, .....	Lithuanian, .....	Laborer, .....	30	S.	Park Place, .....	Schuylkill, .....	Ankle fractured by a fall of coal.
	10 Jeremiah Ryan, .....	American, .....	Car runner, .....	19	S.	Park Place, .....	Schuylkill, .....	Jaw fractured by lever, Outside.
	19 Andrew Rappee, .....	Polish, .....	Miner, .....	38	M.	Maple Hill, .....	Schuylkill, .....	Lacerated about head and body by premature blast.
March	11 Harry Persenmer, .....	English, .....	Driver, .....	19	S.	Broad Mountain, .....	Schuylkill, .....	Collar bone broken by being caught between mule and car, Outside.
	25 James Kennedy, .....	American, .....	Repairman, .....	35	M.	Saint Nicholas, .....	Schuylkill, .....	Hands and face burned by gas.
	4 Michael Durrick, .....	Polish, .....	Miner, .....	33	M.	Maple Hill, .....	Schuylkill, .....	Left leg broken by a fall of coal.
	9 John Etringham, .....	American, .....	Loader boss, .....	31	M.	Tunnel Ridge, .....	Schuylkill, .....	Slightly burned by gas on hands and face.
	10 Thomas Miller, .....	American, .....	Miner, .....	35	S.	Primrose, .....	Schuylkill, .....	Leg fractured by a fall of coal.
	16 Thomas Schesky, .....	Polish, .....	Miner, .....	31	M.	Saint Nicholas, .....	Schuylkill, .....	Leg fractured by a rush of coal.
	17 William Anderson, .....	Irish, .....	Fire boss, .....	38	M.	Tunnel Ridge, .....	Schuylkill, .....	Slightly burned by gas.
	14 Daniel Lukinik, .....	American, .....	Jig boss, .....	24	M.	Tunnel Ridge, .....	Schuylkill, .....	Hand caught between tension wheel and car, Outside.
April	31 Benjamin Becker, .....	American, .....	Chute boss, .....	20	S.	North Mahanoy, .....	Schuylkill, .....	Leg broken by being caught in elevator, Outside.
	12 Charles Tumela, .....	Polish, .....	Miner, .....	39	M.	Maple Hill, .....	Schuylkill, .....	Hips bruised by premature blast.
May	15 Thomas Davis, .....	Welsh, .....	Pulley man, .....	48	M.	Park Place, .....	Schuylkill, .....	Head injured by being bumped by mine car, Outside.
	29 Paul Melohelick, .....	Hungarian, .....	Miner, .....	35	M.	Silver Brook, .....	Schuylkill, .....	Skull fractured by a premature blast.
	29 Frank Rudy, .....	Hungarian, .....	Laborer, .....	27	M.	Silver Brook, .....	Schuylkill, .....	Injured by a premature blast.
	31 Michael Cannon, .....	American, .....	Slate picker, .....	14	S.	Knickerbocker, .....	Schuylkill, .....	Arm broken by falling down slate-hopper, Outside.
June	31 George Carmichael, .....	Scotch, .....	Fire boss, .....	38	M.	Park Place, .....	Schuylkill, .....	Hands and face burned by gas.
	3 Frank Rascavage, .....	Polish, .....	Laborer, .....	26	S.	Saint Nicholas, .....	Schuylkill, .....	Leg broken by unloading timber from mine car.
July	4 George Notton, .....	Polish, .....	Driver, .....	28	M.	Saint Nicholas, .....	Schuylkill, .....	Fingers cut off by a fall of coal.
	1 Anthony Kiyer, .....	Polish, .....	Miner, .....	22	M.	Maple Hill, .....	Schuylkill, .....	Hands and face burned by gas.
	6 Adam Rudwash, .....	American, .....	Miner, .....	38	M.	Tunnel Ridge, .....	Schuylkill, .....	Hips injured by a fall of coal.
	11 Thomas Lardgas, .....	Polish, .....	Miner, .....	46	M.	Saint Nicholas, .....	Schuylkill, .....	Face and hands burned by gas.
	21 Thomas Bonner, .....	American, .....	Miner, .....	44	S.	Primrose, .....	Schuylkill, .....	Leg and hand injured by fall of coal.
	23 Thomas McHale, .....	Irish, .....	Loader, .....	25	M.	Broad Mountain, .....	Schuylkill, .....	Body squeezed between car and ribs.
	24 John Urdin, .....	Polish, .....	Miner, .....	40	S.	Park Place, .....	Schuylkill, .....	Head and face injured by premature blast.
	24 Anth. Adrokoewsky, .....	Polish, .....	Miner, .....	27	M.	Saint Nicholas, .....	Schuylkill, .....	Face and hands burned by gas.



27	Edward Ditcher, .....	American, .....	Miner, .....	32	M.	Boston Run, .....	Schuylkill, .....	Head injured by falling down slope.
28	Alex Isgronius, .....	Polish, .....	Miner, .....	33	S.	North Mahanoy, .....	Schuylkill, .....	Hand and arm injured by a fall of coal.
29	Frank Hultsch, .....	Polish, .....	Miner, .....	34	M.	North Mahanoy, .....	Schuylkill, .....	Collar bone broken by a fall of slate.
30	Edward Hultsch, .....	Polish, .....	Car runner, .....	35	M.	Ellangowan, .....	Schuylkill, .....	Body injured by a rush of coal.
31	Wladick Raslouskie, .....	Polish, .....	Driver, .....	36	S.	Suffolk, .....	Schuylkill, .....	Leg fractured by being caught between car and mule.
32	Joe Kitzke, .....	Russian, .....	Miner, .....	37	S.	Suffolk, .....	Schuylkill, .....	Hand blown off by an explosion of dynamite.
33	Andrew Smulegan, .....	Polish, .....	Fan boy, .....	38	S.	Tunnel Ridge, .....	Schuylkill, .....	Leg broken by a piece of coal from a blast.
34	Christ Slimmer, .....	German, .....	Driver, .....	39	S.	Suffolk, .....	Schuylkill, .....	Arm injured by being caught by mine car.
35	Joe Walevake, .....	Lithuanian, .....	Fan boy, .....	40	S.	Knickerbocker, .....	Schuylkill, .....	Squeezed between door frame and mine car.
36	Patrick Kilroy, .....	Irish, .....	Miner, .....	41	M.	Suffolk, .....	Schuylkill, .....	Laceration of scalp by a fall of coal.
37	Leon Bankin, .....	Scotch, .....	Loader, .....	42	M.	Suffolk, .....	Schuylkill, .....	Stomach injured between car and door.
38	Joe Sankus, .....	Polish, .....	Miner, .....	43	S.	Ellangowan, .....	Schuylkill, .....	Arm injured by a piece of coal falling on him.
39	Frank Frankus, .....	Lithuanian, .....	Repairman, .....	44	M.	Park Place, .....	Schuylkill, .....	Collar bone broken by falling off mine car.
40	William Detheln, .....	American, .....	Loco. conductor, .....	45	S.	Boston Run, .....	Schuylkill, .....	Leg fractured by being caught between locomotive and mine car.
41	Herman Thann, .....	German, .....	Miner, .....	46	M.	Boston Run, .....	Schuylkill, .....	Face and hands burned by gas.
42	Joe Desmon, .....	Polish, .....	Laborer, .....	47	S.	Ellangowan, .....	Schuylkill, .....	Face and hands burned by powder.
43	John Tankalavige, .....	Polish, .....	Laborer, .....	48	S.	Ellangowan, .....	Schuylkill, .....	Laceration and contusion of feet by falling under a trip of cars.
44	Mart Sutski, .....	Polish, .....	Fan boy, .....	49	S.	Suffolk, .....	Schuylkill, .....	Leg broken by a fall of coal.
50	Anth. Yonsky, .....	Polish, .....	Miner, .....	50	M.	Primrose, .....	Schuylkill, .....	Leg broken by falling under a trip of cars.
51	Adam Volensky, .....	Hungarian, .....	Laborer, .....	51	S.	Silver Brook, .....	Schuylkill, .....	Face and hands burned by an explosion of gas.
52	Chas. Hingo, .....	Polish, .....	Miner, .....	52	M.	Saint Nicholas, .....	Schuylkill, .....	Face and hands burned by an explosion of gas.
53	Joe Vinshunes, .....	Polish, .....	Miner, .....	53	S.	Saint Nicholas, .....	Schuylkill, .....	Face and hands burned by an explosion of gas.

## Explosion of Dynamite at the Maple Hill No. 2 Shaft of the Philadelphia and Reading Coal and Iron Company

On January 30, Morgan Jones, John Mackey, Adam Savige, John Ushaw and Joseph Junas, machinists, were killed in Maple Hill No. 2 shaft. The top-man says that they all came up and fired a blast, making the sump. Then they went down again to fire another round, leaving the laborers on top. Adam Savige soon returned to the surface again saying that he wanted four sticks of dynamite and two exploders, which he received from the top man. He took them with him and went down again. He held them in his hand. The exploders were fastened in the dynamite ready to be used before he left the top of the shaft. The top-man said that the bucket had just about reached the bottom when there was a signal given to the engineer to hoist men. When the bucket was up about 275 feet from the bottom there was an explosion, and when it landed there was no one in it. The hose which was in the bucket was partly hanging out of it and was torn. There was also in the bucket one monkey-wrench, one manifold, one 18 inch steel point, all of which were broken except the 18 inch point. In making a personal examination I found six rivets blown out of the bucket and the bottom bulged out. I also found pieces of oil cloth clothes on the timber about 275 feet from the bottom. On examining the bottom of the shaft I found that a round of shots had been fired in the sump. There were also five holes in the hitch in the northwest corner which were charged and two holes charged in the northeast corner hitch, and six sticks of dynamite on a loose rock connected by wire ready to be fired with the battery. In my opinion the dynamite and exploders that Adam Savige went for, had not been used, but were in the bucket with the men ascending the shaft. The supposition is that one of the tools found in the bucket fell on the exploder, which was fastened to the dynamite in the bottom of the bucket, causing the explosion. Five men were found dead at the bottom of the shaft.

## CONDITION OF COLLIERIES AND IMPROVEMENTS ·

### PHILADELPHIA AND READING COAL AND IRON COMPANY

#### Maple Hill Colliery

This is one of the largest coal producing collieries operated by this company.

The new shaft, No. 2, has been sunk to a depth of 850 feet. The approximate distance when completed will be 1,050 feet, reaching the Buck Mountain vein.

A new fan twenty-one feet in diameter has been constructed of

the most modern type, and when running at a speed of seventy to eighty revolutions per minute will produce in the neighborhood of 100,000 cubic feet of air.

Ventilation, drainage and road-beds at this colliery are in good condition.

### Suffolk Colliery

Outside.—A carpenter and blacksmith shop combined has been built of the following dimensions, 34x52 feet.

A building over the car-hoist engine, dimensions 13x34 feet, and one blast engine and fan, engine, 12x18 inches, fan, 12 feet diameter, have been erected.

Inside.—A rock chute has been driven from the orchard to the basin of the diamond vein, a distance of seventy-two feet across the measures, on an angle of about thirty-five degrees.

Two air-ways are now being driven in the diamond vein, for the purpose of ventilating that section.

Ventilation, drainage and road-beds at this colliery are in good condition.

### Saint Nicholas Colliery

This colliery is in excellent condition. Both inside and outside workings are being equipped with modern machinery.

Outside.—A new engine house has been built, dimensions 34x53 feet, where a pair of engines 20x48 inches were placed on the surface at Bear Run slope, for the purpose of lowering and hoisting men and colliery supplies.

A new building has been erected over the tender slope engine, dimensions 31x48 feet, the old building being removed.

There has also been one high pressure engine and compressor erected, to supply the two air locomotives used inside, and a building has been erected over the compressor, dimensions 23x52 feet. One low pressure air compressor engine has been installed, over which a building has been erected, dimensions, 13x15 feet.

A pump 9x38 inches, for the purpose of washing coal, has been placed, also a six-inch centrifugal pump for drainage of the lumber yard, and a building 12x14 feet placed over it. A saw-mill building, 12x14 feet, has been erected with the necessary machinery to run the same.

Inside.—There has been installed at this colliery two, eight ton air locomotives and placed in the third level, hauling coal from intermediate points, supplying the main hoisting slope.

A three-inch air-line has been extended from the surface, via No. 2 tender slope to the third level. At this point the pipe has been increased from three to six inches, acting as a reservoir, and is firmly

placed along the gangway, a distance of 1,920 feet, charging stations being erected at suitable points.

Also connected with the low pressure air compressor on the surface, a six-inch air-line has been extended down the main hoisting slope to the third level, branching off at first and second level. This line will supply rock drilling machines for the various kinds of rock work.

Two tunnels have been driven, one on the second level from the Buck Mountain back to the little Buck Mountain, and the other on the third level from the Bottom split of Mammoth to the Skidmore vein. The third is being driven from the Bottom split of the Mammoth to the little Buck Mountain. The tunnel has just gone through the seven-foot seam, which is in good condition.

Ventilation, drainage and road-beds at this colliery are in good condition.

### Boston Run Colliery

Inside.—This colliery leads all others in the district in improvements.

A new gun-boat slope has been completed on the Little Buck Mountain vein, from the surface to the third level, a distance of 1,271 feet.

A pump-house has been driven and completed in solid rock between the little and big Buck Mountain, dimensions 20x16x90 feet. At the foot of this slope several short tunnels have been driven for the purpose of simplifying the distribution of mine cars.

An air tunnel has been driven from the Skidmore to the seven foot, a distance of fifty feet. Two compound duplex pumps are about to be placed in the new pump house, size 24x40x12x36 inches.

A steam-way has been driven from the third level to the surface, a distance of 1,020 feet, by which steam will be conveyed through a ten-inch line to supply the above pumps.

Two air-locomotives have also been installed. From the air compressor on the surface a three-inch air pipe line has been extended a distance of 3,000 feet to the third level; here the pipe has been increased from a three to a six inch and extends along the gangways for a distance of 1,050 feet.

To improve the ventilation an air-tunnel has been driven 10x10 feet from the Buck Mountain to the little Buck Mountain, length fifty-five feet. Also an air-way was driven on the little Buck Mountain vein from the second level to the surface. Ventilation, drainage and road-beds are in good condition.

Outside.—New hoisting engine house for gun-boat slope, constructed of wood. Length, 55 feet 7 inches; width, 34 feet; height, 13 feet 2½ inches. It contains one pair of 26x60 inch hoisting en-



gines, the diameter of the drum is sixteen feet, and 1,650 feet of  $1\frac{3}{4}$  inch steel wire rope are used on the same. Have 1,016 feet of ten inch steam pipe leading from boilers to these engines.

New head frame and gun-boat slope. Length of plane from first set of timber in slope to center of sheave shaft 243 feet, vertical height from first set of timber in slope to center of sheave shaft, 192 feet 6 inches.

New compressor house constructed of wood, length 33 feet, width 30 feet, 9 inches, height 13 feet; contains one class "A" Ingersoll-Sergeant air compressor 18x24 inch, used to furnish power for air motors in third lift.

Connected with the above there is one new tank house, constructed of wood; length 40 feet, width 11 feet, height 8 feet, 10 inches.

New lamp house and office for inside foreman's use, constructed of iron; length 15 feet, 2 inches, width 13 feet, 2 inches, height 8 feet.

New wash house constructed of iron; length 24 feet, 7 inches, width 24 feet, 7 inches, height 9 feet 7 inches.

New supply house, constructed of iron; length 33 feet 4 inches, width 16 feet 6 inches, height 14 feet 8 inches.

New office containing two rooms, constructed of wood; length 28 feet, width 13 feet, height 10 feet 1 inch.

New slush elevator engine house, constructed of wood; length 20 feet, width 14 feet, height 8 feet 3 inches. Contains one engine 12x24 inches, which is used to elevate slush in order to run same over P. and R. Railway to fill up swamp between P. and R. and Schuylkill Traction Roads at Bear Run Junction.

Ventilation, drainage and roads at this colliery are in a good condition.

#### Tunnel Ridge Colliery

Outside.—One new steam locomotive for rock bank, and a house built for the same. One new engine 20x30 inches to run refuse scraper line.

Inside.—Underground slope on Skidmore vein completed, length 389 feet.

One new air locomotive and 1,200 feet of air line pipe. A tunnel driven from the Skidmore to Bottom split, a distance of 100 feet.

Ventilation, drainage and road-beds are in good condition.

#### North Mahanoy Colliery

Outside.—Two new standard 6x18 feet tubular boilers; one 12x18 inch blast fan engine; one fan 8 feet in diameter.

Inside.—Re-opened seven foot drift. A chute was driven from a point inside a distance of 71 feet on an angle of 75 degrees to the Skidmore vein, which is ten feet thick and good coal.



A tunnel was driven from the top to the Bottom split in the Mammoth for a second outlet in the Yatesville basin, distance 68 feet.

A tunnel is being driven south in the same basin 453 feet, and has developed the following veins: Top split and Middle split of the Mammoth, and will be continued to the Buck Mountain vein.

No. 3 underground slope on the Buck mountain vein, a tunnel driven on the first level, seven foot, Skidmore and Bottom split veins, tunnel distance 175 feet.

A rope haulage has been installed to convey the coal from Schuylkill section to the bottom of the main slope, North Mahanoy colliery, a distance of 1,000 feet, engine 11x16 inches, 3,000 feet of three-quarter inch steel wire haulage rope.

### Knickerbocker Colliery

Outside.—In the near future the coal from Indian Ridge will be prepared and shipped from this breaker. For this purpose 5,300 feet of track have been graded and laid with fifty pound T rails. A portion of the breaker has been remodeled with an additional tippie to handle Indian Ridge coal, erected for a standard tubular boiler. This colliery is in a good sanitary condition.

Inside.—Buck mountain underground slope south dip a tunnel was driven to the seven foot vein on the north dip, a distance of 183 feet.

### Mahanoy City Colliery

Outside.—One twenty-one foot exhaust fan for ventilation. Another twelve foot exhaust fan for ventilation on the little Primrose vein.

Inside.—Underground shaft from the third level completed, depth 115 feet reaching the Skidmore and seven foot vein.

An air-shaft has been sunk from the surface, depth, 134 feet, dimensions, 10x10 feet in the clear, over which a 21 foot exhaust fan has been constructed to ventilate this colliery.

On the second level a tunnel has been driven from bottom split to top split, middle split and to top split on the other dip, dimensions, 8x12 feet, length 412 feet. Second tunnel has been driven on the same level, bottom split to middle split, dimensions 8x12 feet, length 213 feet. On the third level a tunnel has been driven from top split to bottom split, vein 15 feet thick, good coal, dimensions 12x12 feet, length, 213 feet.

Ventilation, drainage and road-beds are in good condition.

### Ellangowan Colliery

The condition of this colliery is practically the same as last year. The pump house mentioned in my 1903 report, dimensions 95x25x16

feet, driven in solid rock, in which two P. and R. C. and I. Co. pumps, 18x48 inches, have been placed, is entirely completed, and is rendering great service.

This colliery is in a good sanitary condition.

#### LEHIGH VALLEY COAL COMPANY

##### Primrose Colliery

A tunnel from Buck Mountain vein north dip to the Buck Mountain vein south dip on the main slope level was completed, size of tunnel 8x12 feet, total length 566 feet.

Tunnels driven to head of proposed underground slope: Empty car tunnel 8x12x230 feet; loaded car tunnel 8x18x290 feet; tunnel from Mammoth vein to basin of Primrose vein, 8x12x185 feet.

An electric haulage system has been put in all the working gangways on the main level and also in the working gangways on the water level. An electric system has been installed and is operated by a McEwen engine 20x18 inch D. C. to 175 K. W. Westinghouse generator built by the Ridgway Dynamo and Engine Co. A 22x25 inch corrugated house for this plant was built adjoining the tender slope engine house on the east side.

An addition to the boiler house 23x47 feet has been built and 300 H. P. B. & W. boilers are on the property ready for erection.

A 28x32 foot fan and pump room has been built adjoining the boiler house and fan, boiler feed pumps, and water heater put in place.

Drainage, ventilation and road-beds are in good condition.

#### CRYSTAL RUN COAL COMPANY

##### Broad Mountain Colliery

Water was pumped from No. 3 underground Buck Mountain slope, south dip, a depth of 570 feet, this distance being divided into two lifts and gangways driven east and west, the vein being twelve feet thick, of excellent coal.

A tunnel is being driven south from the first level, from the Buck Mountain vein to seven foot, cutting the vein at 180 feet, the vein being eight feet thick. The tunnel will be continued until the Skidmore and Mammoth veins are reached.

A diamond drill hole was bored through the measures and developed the following veins: Seven foot, twelve feet thick; Skidmore, six feet two inches; bottom split of Mammoth, six feet one inch; top split of Mammoth, eighteen feet. The diamond drill has been moved to a point a half mile west on the property, and the work is still progressing.

Ventilation, drainage, etc., are in good condition.

## SILVER BROOK COAL COMPANY

## Silver Brook Colliery

The condition of this colliery is practically the same as last year. A few inside and outside improvements are in course of completion.

The ventilation and road-beds have been somewhat improved during the year.

Sanitary conditions of the colliery are fair.

## LENTZ AND COMPANY

## Park Place.

The improvements at this colliery have been made very substantial.

The engines and boilers used are of the most modern type.

A new slope was driven to the surface at the western end of the basin known as No. 4 slope; hoisting engine and house in course of completion. Coal from this point will be taken over the surface, a distance of 8,000 feet, by means of rope haulage, and delivered at the breaker.

The necessary work for surface transmission is completed and ready for operation.

A tunnel driven from Buck Mountain, south dip cutting the seven foot vein at 208 feet, is being continued toward Skidmore.

Twenty-two telephones connecting all the principal portions of the mines were installed during the past year.

Much has been done at this colliery to improve ventilation.

## Mine Foremen's Examinations

The following persons passed a successful examination and were recommended for certificates:

## Mine Foremen

Edward Watkins, Mahanoy City; William E. Manney, Silver Brook; John Deitrick, Shenandoah.

# Twelfth District

SCHUYLKILL COUNTY

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Pottsville, Pa., March 6, 1905.

Hon. James E. Roderick, Chief of Department of Mines:

Sir: I have the honor of transmitting herewith my annual report as Inspector of Mines for the Twelfth Anthracite District for the year ending December 31, 1904.

Respectfully submitted,

MICHAEL J. BRENNAN,

Inspector.

## SUMMARY OF STATISTICS

Number of collieries, .....	21
Number of mines, .....	32
Number of mines in operation, .....	32
Number of tons of coal shipped to market, .....	2,971,527
Number of tons used at mines for steam and heat, .....	491,660
Number of tons sold to local trade and used by employes..	38,489
Number of tons of coal produced, .....	3,501,676
Number of persons employed inside of mines, .....	5,577
Number of persons employed outside, .....	3,307
Number of fatal accidents inside of mines, .....	22
Number of fatal accidents outside, .....	15
Number of non-fatal accidents inside of mines, .....	39
Number of non-fatal accidents outside, .....	8
Number of tons of coal produced per fatal accident inside,	159,167
Number of persons employed per fatal accident inside,..	254
Number of persons employed per fatal accident outside,..	220
Number of persons employed per non-fatal accident inside,	143
Number of persons employed per non-fatal accident out- side, .....	413
Number of wives made widows by fatal accidents, .....	16
Number of children orphaned by fatal accidents, .....	38
Number of steam locomotives used inside of mines, .....	1
Number of steam locomotives used outside, .....	20
Number of electric motors used inside, .....	5
Number of fans used for ventilation, .....	38
Number of gaseous mines in operation, .....	28
Number of non-gaseous mines in operation, .....	4
Number of new mines opened, .....	2

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TABLE A

## PRODUCTION OF COAL

Names of Operators	Tons
Philadelphia and Reading Coal and Iron Company, . . . . .	1,762,270
St. Clair Coal Company, . . . . .	426,402
Lytle Coal Company, . . . . .	344,820
Pine Hill Coal Company, . . . . .	220,826
Buck Run Coal Company, . . . . .	198,146
Oak Hill Coal Company, . . . . .	115,618
East Ridge Coal Company, . . . . .	86,789
Mt. Hope Coal Company, . . . . .	64,285
Darkwater Coal Company, . . . . .	62,090
Silverton Coal Company, . . . . .	61,553
Stoddart Coal Company, . . . . .	59,689
E. White and Company, . . . . .	46,840
John H. Davis, . . . . .	43,053
Black Diamond Anthracite Coal Company, . . . . .	9,295
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Total, . . . . .	3,501,676
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## Production by Counties

Schuylkill, . . . . .	3,501,676
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TABLE B.—Fatal and non-fatal accidents inside and outside of mines; number of tons of coal produced per accident; number of persons employed; number employed per accident

Names of Operators	Fatal Accidents			Non-Fatal Accidents			Tons of coal produced per fatal accident inside	Number of employees inside	Number of employees outside	Total number of employees	Number of employees inside per fatal accident	Number of employees outside per fatal accident	Number of employees inside per non-fatal accident	Number of employees outside per non-fatal accident
	Inside	Outside	Total	Inside	Outside	Total								
Philadelphia and Reading Coal and Iron Co., . . . . .	10	8	18	20	4	24	176,227	3,189	1,754	4,943	319	219	159	438
St. Clair Coal Co., . . . . .	1	1	2	1	1	2	426,402	419	300	719	419	150	419	300
Lytle Coal Co., . . . . .	4	1	5	10	1	11	86,205	559	188	747	140	188	56	188
Pine Hill Coal Co., . . . . .	4	2	6	2	1	3	35,206	323	160	483	81	162	162	162
Buck Run Coal Co., . . . . .	1	1	2	1	1	2	198,146	263	119	382	263	81	131	131
Oak Hill Coal Co., . . . . .	1	1	2	1	1	2	99,073	274	120	394	274	47	274	47
East Ridge Coal Co., . . . . .	1	1	2	1	1	2	115,618	47	125	172	47	125	47	125
Mt. Hope Coal Co., . . . . .	1	1	2	1	1	2	86,789	86	95	181	86	95	86	95
Darkwater Coal Co., . . . . .	1	1	2	1	1	2	61,285	91	80	171	91	88	86	86
Silverton Coal Co., . . . . .	1	1	2	1	1	2	62,000	161	88	249	161	88	161	88
E. White and Co., . . . . .	1	1	2	1	1	2	61,563	67	58	125	67	58	67	58
Black Diamond Anthracite Coal Co., . . . . .	1	1	2	1	1	2	46,840	48	104	152	48	104	48	104
Miscellaneous Companies, . . . . .	1	1	2	1	1	2	61,563	50	116	166	50	116	50	116
Totals and averages for district, . . . . .	22	15	37	39	8	47	159,167	5,577	3,307	8,884	254	220	113	413



TABLE D.—Classification of non-fatal accidents inside and outside of mines

	Inside										Outside						Grand total				
	By Falls of		Roof	By mine cars	By explosion of gas	Smothered by gas	By powder and dynamite	By blasts, etc.	Shafts	By Falling Into			Total inside	By cars	By machinery	By suffocation		By boiler explosion	Miscellaneous causes	Total outside	
	Coal	Slate								Slopes	Manways, breasts, etc.	Crushed at batteries									By mules
January.	1		1	1			3						1	1					1	1	1
February.					3		1				1										1
March.	1																				1
April.	1	1												1							1
May.	1	1																			1
June.	1	1																			1
July.					2											1					1
August.				1																	1
September.					3			1													1
October.	1		1	2												2					2
November.	1		2																		2
December.													1								1
Totals.	8	2	3	10	7		4	1				1	2						3	8	47

TABLE E.—Occupations of persons killed or fatally injured inside and outside of mines

	Inside										Outside										
	Mine foremen	Assistant mine foremen	Fire bosses and assistants	Miners	Miners' laborers	Drivers and runners	Door boys and helpers	Pumpmen	Company men	All other employees	Total inside	Superintendents	Foremen	Blacksmiths and carpenters	Engineers and firemen	State pickers (boys)	State pickers (men)	Book-keepers and clerks	All other employees	Total outside	Grand total
January, .....	.....	.....	.....	2	.....	.....	.....	.....	.....	.....	2	.....	.....	.....	.....	.....	.....	.....	.....	2	4
February, .....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	4
March, .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
April, .....	.....	.....	.....	1	.....	1	.....	.....	.....	.....	3	.....	.....	.....	.....	.....	.....	.....	.....	1	4
May, .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
June, .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
July, .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
August, .....	.....	.....	.....	6	.....	.....	.....	.....	.....	.....	6	.....	.....	.....	.....	.....	.....	.....	.....	.....	6
September, .....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	3
October, .....	.....	.....	.....	.....	2	2	.....	.....	.....	.....	2	.....	.....	.....	1	.....	.....	.....	.....	.....	3
November, .....	.....	.....	.....	1	2	.....	.....	.....	.....	.....	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	3
December, .....	.....	.....	.....	2	.....	.....	.....	.....	.....	.....	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	2
Totals, .....	.....	.....	.....	14	2	3	.....	.....	2	1	22	.....	.....	1	.....	1	.....	.....	13	15	37



TABLE F.—Occupations of persons injured inside and outside of mines

	Inside										Outside											
	Mine foremen	Assistant mine foremen	Fire bosses and assistants	Miners	Miners' laborers	Drivers and runners	Door boys and helpers	Pumpmen	Company men	All other employees	Total inside	Superintendents	Foremen	Blacksmiths and carpenters	Engineers and firemen	State pickers (boys)	State pickers (men)	Hook-keepers and clerks	All other employees	Total outside	Grand total	
January				4	1				1		1									1	1	2
February																						
March				4	1	1			1											1	1	1
April					1															1	1	1
May				2	1	1			1											1	1	1
June				1																		
July				2																1	1	1
August				1	1																	
September				1	1															2	2	2
October					2	2				1												
November					1																	
December																						
Totals,				20	9	6			3	1	39								9	8	47	86

TABLE G.—Nationality of Persons Killed or Fatally Injured Inside and Outside of Mines

	American	English	Irish	German	Polish	Hungarian	Italian	Slavonian	Austrian	Russian	Totals
January, .....	3		1								4
February, .....		1					1	1		1	4
March, .....											
April, .....	3								1		4
May, .....						1					1
June, .....	1								1		2
July, .....											
August, .....	1				1		1		3		6
September, .....	2			1							3
October, .....	2										5
November, .....	2										6
December, .....	1							1			2
Totals, .....	17	1	1	1	1	1	2	7	5	1	37

TABLE H.—Nationality of Persons Injured Inside and Outside of Mines

	American	English	Irish	Polish	Hungarian	Italian	Slavonian	Lithuanian	Austrian	Russian	Totals
January, .....	4		1				1				6
February, .....					1	1					2
March, .....	3			3		1					7
April, .....	3			1			1			1	6
May, .....	1			1			1		1		4
June, .....	2		1								3
July, .....	3										3
August, .....	1										1
September, .....	3					1		1			5
October, .....	3									1	4
November, .....	2	1					2				5
December, .....	1										1
Totals, .....	26	1	2	5	1	3	5	1	1	2	47

TABLE I.—Operators and mines, kind of openings, type and size of fans, size of furnaces, volume of air produced by fan or furnace per minute, number of splits of air currents, number of persons employed inside, and quantity of air produced for each person per minute

Names of Operators and Mines	Kind of opening	Gaseous or non-gaseous	Method of ventilation	Diameter of fan in feet	Width of blades in feet	Depth of blades in feet	Number of revolutions per minute	Water gauge developed—in inches	Name of fan	Power used	Number of splits of air currents	Number of cubic feet of air per minute entering the mine at inlet	Total quantity of air per minute circulating in all the splits in cubic feet	Number of cubic feet per minute passing out at outlet	Number of persons employed inside	Average number of cubic feet per person provided for each person	
Philadelphia and Reading Coal and Iron Co.																	
No. 1, West Brookside, .....	Slope, .....	Non-gas, .....	Fan, .....	18	6	5	90	2.1	Gubal, .....	Steam, .....	2	12,110	11,110	13,010	49	227	
No. 3, West Brookside, .....	Slope, .....	Gaseous, .....	Fan, .....	18	6	5	56	1.6	Gubal, .....	Steam, .....	3	178,600	177,000	80,100	206	382	
No. 4, West Brookside, .....	Slope, .....	Gaseous, .....	Fan, .....	18	6	5	58	1.3	Gubal, .....	Steam, .....	9	124,532	123,033	125,000	238	431	
Lincoln No. 1 slope, .....	Slope, .....	Gaseous, .....	Fan, .....	14	4.5	2.8	80	1.6	Gubal, .....	Steam, .....	12	68,410	66,210	69,470	293	226	
Lincoln No. 2 slope, .....	Slope, .....	Gaseous, .....	Fan, .....	12	4	2.4	104	1.9	Gubal, .....	Steam, .....	10	46,570	44,570	48,200	172	259	
Good Spring No. 1, .....	Slope, .....	Gaseous, .....	Fan, .....	18	6	5	80	1.1	Gubal, .....	Steam, .....	6	71,368	70,168	72,406	139	504	
Good Spring No. 2, .....	Slope, .....	Gaseous, .....	Fan, .....	18	6	5	80	1.3	Gubal, .....	Steam, .....	10	69,785	67,980	71,180	171	398	
Good Spring No. 3, .....	Slope, .....	Gaseous, .....	Fan, .....	15	5	4	65	.9	Gubal, .....	Steam, .....	7	55,500	53,250	56,300	110	484	
Otto Red Ash, .....	Slope, .....	Gaseous, .....	Fan, .....	18	6	5.3	96	1.8	Gubal, .....	Steam, .....	7	66,000	62,000	65,000	154	338	
Otto White Ash, .....	Slope, .....	Gaseous, .....	Fan, .....	12	4	3.5	120	1.1	Gubal, .....	Steam, .....	5	46,000	43,000	49,000	104	232	
Phoenix Park No. 2, .....	Slope, .....	Gaseous, .....	Fan, .....	15	5	3.5	85	1.1	Gubal, .....	Steam, .....	5	46,000	43,000	49,000	104	232	
Phoenix Park No. 3, .....	Slope, .....	Gaseous, .....	Fan, .....	15	5	3.5	85	1.1	Gubal, .....	Steam, .....	5	46,000	43,000	49,000	104	232	
Glendower, .....	Slope, .....	Gaseous, .....	Fan, .....	15	5	2.6	80	1.2	Gubal, .....	Steam, .....	4	38,902	24,000	41,200	78	308	
Glendower, .....	Slope, .....	Gaseous, .....	Fan, .....	12	4	3.5	100	1.1	Gubal, .....	Steam, .....	4	38,902	24,000	41,200	78	308	
Wadesville, .....	Slope, .....	Gaseous, .....	Fan, .....	18	5.5	4.6	80	1.3	Gubal, .....	Steam, .....	1	9,211	7,400	10,314	20	370	
Wadesville, .....	Shaft, .....	Gaseous, .....	Fan, .....	21	7	6	70	1.2	Gubal, .....	Steam, .....	10	195,335	193,420	196,975	224	863	
Pine Knot shaft, .....	Shaft, .....	Gaseous, .....	Fan, .....	21	7	6	70	1.2	Gubal, .....	Steam, .....	10	195,335	193,420	196,975	224	863	
Pine Knot shaft, .....	Shaft, .....	Gaseous, .....	Fan, .....	12	3	4	.....	3	Gubal, .....	Steam, .....	.....	.....	.....	.....	.....	.....	
Lytle Coal Co.																	
Lytle, .....	Shaft, .....	Gaseous, .....	Fan, .....	18	7	5.10	60	.6	Gubal, .....	Steam, .....	16	128,630	125,000	130,081	400	293	
Lytle, .....	Shaft, .....	Gaseous, .....	Fan, .....	18	7	5.10	108	1.3	Gubal, .....	Steam, .....	.....	.....	.....	.....	.....	.....	
Lytle, .....	Slope, .....	Gaseous, .....	Fan, .....	16	6	4	95	1.3	Gubal, .....	Steam, .....	.....	.....	.....	.....	.....	.....	

St. Clair, .....	Slope,....	Gaseous, .....	Fan,.....	14	5	3.6	90	1	Guibal, .....	Steam, .....	3	49,600	47,300	55,400	212	233
St. Clair, .....	Drift,....	Gaseous, .....	Fan,.....	14	5	3.6	70	1	Guibal, .....	Steam, .....	5	51,842	45,431	59,850	157	239
St. Clair, .....	Shaft,....	Gaseous, .....	Fan,.....													
Pine Hill Coal Co.																
Pine Hill, .....	Shaft,....	Gaseous, .....	Fan,.....	20	6	5.6	63	1	Guibal, .....	Steam, .....	11	73,404	70,600	71,954	224	315
Pine Hill, .....	Slope,....	Gaseous, .....	Fan,.....	16	4	3.8	73		Guibal, .....	Steam, .....						
Pine Hill, .....	Drift,....	Gaseous, .....	Fan,.....													
Buck Run Coal Co.																
Buck Run, .....	Slope,....	Gaseous, .....	Fan,.....	15	4.7	3.4	70	.6	Guibal, .....	Steam, .....	6	39,700	37,000	43,200	170	218
Buck Run, .....	Slope,....	Gaseous, .....	Fan,.....	12	3.3	3.5	90	.9	Guibal, .....	Steam, .....						
Oak Hill Coal Co.																
Oak Hill, .....	Shaft,....	Gaseous, .....	Fan,.....	24	8.1½	6.3	65	1.3	Guibal, .....	Steam, .....	10	95,000	83,263	95,250	130	640
Oak Hill, .....	Slope,....	Gaseous, .....	Fan,.....	16	4.5	3.8	50	.9	Guibal, .....	Steam, .....						
Oak Hill, .....	Drift,....	Gaseous, .....	Natural, .....												15	
East Ridge Coal Co.																
East Ridge, .....	Slope,....	Gaseous, .....	Fan,.....	12	4	3.4	70	¾	Guibal, .....	Steam, .....	3	17,000	16,000	24,000	31	516
Silverton Coal Co.																
Silverton, .....	Slope,....	Gaseous, .....	Fan,.....	16	4.9	4	50	.3	Guibal, .....	Steam, .....	2	18,120	9,922	18,200	42	236
Silverton, .....	Slope,....	Gaseous, .....	Fan,.....	16	4.9	4	70	1.5	Guibal, .....	Steam, .....						
Black, .....	Slope,....	Gaseous, .....	Fan,.....	16	4.9	4	90	2.8	Guibal, .....	Steam, .....	5	36,453	13,494	36,500	48	281
Black, .....	Drift,....	Gaseous, .....	Fan,.....	8	2.1	2.8	100	.5	Guibal, .....	Steam, .....	1	12,983	3,672	13,000	16	228
E. White and Co.																
Howard, .....	Slope,....	Gaseous, .....	Fan,.....	12	3.4	4.2	70	.9	Guibal, .....	Steam, .....	3	16,670	12,000	17,500	45	267
Black Diamond Anthracite Coal Co.																
Black Diamond, .....	Slope,....	Gaseous, .....	Fan,.....	16	4.9	4.2	40	.3	Guibal, .....	Steam, .....	2	21,600	8,400	21,700	33	255

TABLE 1.—Operators, location of collieries, railroads, etc.

Names of Operators and Collieries	County	Name of General Superintendent	Post Office	Name of Superintendent	Post Office	Railroad to Mine
Philadelphia and Reading Coal and Iron Co.	Schuylkill	Wm. J. Richards,	Pottsville,	John Veith,	Pottsville,	Philadelphia and Reading
West Brookside,						
Lincoln,						
Good Spring,						
Otto,						
Phoenix Park No. 3,						
Glendower,						
Wadesville,						
Pine Knot,						
Kalmia washery,						
Middle Creek washery,						
Rausch Creek washery,						
Anchor washery,						
St. Clair Coal Co.	Schuylkill,			Wm. T. Smyth,	Pottsville,	Philadelphia and Reading
St. Clair, st. Clair washery,						
Lytle,	Schuylkill,			Arthur Kennedy,	Minersville,	Pennsylvania
Lytle Coal Co.		R. A. Quin,	Wilkes-Barre,			
Pine Hill Coal Co.	Schuylkill,			Richard J. Wren,	Minersville,	Pennsylvania
Black Heath washery,	Schuylkill,			Richard J. Wren,	Minersville,	Pennsylvania
Buck Run,	Schuylkill,			Mason T. Adams,	Minersville,	Philadelphia and Reading
Buck Run Coal Co.						
Oak Hill,	Schuylkill,	Wm. Schwenck,	Minersville,	Wm. Schwenck,	Minersville,	Philadelphia and Reading
Oak Hill Coal Co.						
East Ridge,	Schuylkill,	B. E. Kingsley,	Minersville,	Wm. Schwenck,	Minersville,	Philadelphia and Reading
East Ridge Coal Co.						
Mt. Hope Coal Co.	Schuylkill,	S. D. Kynor,	Pottsville,			Philadelphia and Reading
Mt. Hope,						
Darkwater Coal Co.	Schuylkill,			Wm. R. Wilson,	Minersville,	Pennsylvania
Newcastle,						



Silverton Coal Co. Silverton, .....	Schuykill... J. H. Brooks, ....	Llewellyn, .....	J. H. Brooks, ....	Llewellyn, .....	Philadelphia and Reading
Stoddart Coal Co. Wolf Creek washery, .....	Schuykill, .....	.....	D. H. McGee, ..	Minersville, .....	Philadelphia and Reading
E. White and Co. Howard, .....	Schuykill, ... Richard White, ..	Pottsville, .....	.....	.....	Philadelphia and Reading
Ellsworth, .....	Schuykill, ... John H. Davis, ..	Saint Clair, .....	.....	.....	Philadelphia and Reading
Black Diamond Anthracite Coal Co., .....	Schuykill, ... F. P. Christian, ..	Pottsville, .....	.....	Llewellyn, .....	Philadelphia and Reading
Black Diamond, .....	Schuykill, ... Fredk. Wanke, ..	Scranton, .....	Wm. Fetherman, ..	Tremont, .....	Philadelphia and Reading
Snyder and Co. Lorberry, .....	.....	.....	.....	.....	.....

TABLE 2.—Number of tons of coal mined, number of days worked, number of persons employed, number killed and injured, quantity of powder and dynamite used, etc.

Names of Operators and Collieries	County	Number of tons of coal shipped to market	Number of tons used at collieries for steam and heat	Number of tons sold to local trade and used by employees	Total production of coal in tons	Number of days worked, (totals are averages not including washeries)	Number of employees	Number of fatal accidents	Number of non-fatal accidents	Number of kegs of powder used	Number of pounds of dynamite used	Number of horses and mules
Philadelphia and Reading Coal and Iron Co.												
Bucks, .....		342,915	71,634	.....	414,549	268	1,231	7	6	4,718	82,422	132
Brookside, .....		406,163	29,810	6,988	441,961	263	906	4	2	9,833	11,886	116
Lincoln, .....		222,812	14,619	4,491	241,922	267	515	2	1	4,895	63,862	56
Good Spring, .....		209,113	37,650	1,745	248,508	268	475	2	4	4,352	39,940	76
Otto, .....		77,345	15,566	2,636	95,486	270	396	2	4	4,739	26,930	59
Phoenix Park No. 3, .....		75,162	34,187	388	109,737	220	306	1	4	90	14,696	40
Glendower, .....		144,031	23,991	4,943	172,965	255	644	1	5	3,132	46,814	48
Wadesville, .....		.....	3,504	.....	2,504	.....	104	.....	.....	.....	6,685	6
Pine Knot, .....		1,476,541	230,900	20,591	1,728,032	254	4,866	18	24	27,759	283,224	533
Kalmia washery, .....		27,988	1,513	.....	29,781	127	10	.....	.....	.....	.....	.....
Anchor washery, .....		4,367	80	.....	4,447	20	3	.....	.....	.....	.....	.....
Middle Creek washery, .....		.....	10	.....	.....	.....	15	.....	.....	.....	.....	.....
Rausch Creek washery, .....		.....	.....	.....	.....	.....	49	.....	.....	.....	.....	.....
Totals, .....		32,335	1,903	.....	34,238	.....	77	.....	.....	.....	.....	.....
.....		1,508,876	232,803	20,591	1,762,270	254	4,943	18	24	27,759	283,224	533

\*No time given.

†No coal shipped during year.

St. Clair,	St. Clair Coal Co.	Schuykill,	319,195	71,759	1,411	392,356	245	690	3	2	10,527	13,185	45
St. Clair washery,		Schuykill,	34,046			34,046	79	29					
Totals,			353,241	71,759	1,411	426,402	245	719	3	2	10,527	13,185	45
Lytie,	Lytie Coal Co.	Schuykill,	251,920	80,631	2,269	344,820	271	747	5	11	2,875	96,125	78
Pine Hill,	Pine Hill Coal Co.	Schuykill,	159,208	14,600	1,275	175,083	230	465	6	2	6,070	28,500	22
Black Heath washery,		Schuykill,	45,743			45,743	228	18					
Totals,			204,951	14,600	1,275	220,826	230	483	6	2	6,070	28,500	22
Buck Run,	Buck Run Coal Co.	Schuykill,	175,735	21,900	511	198,146	244	382	1	2	2,030	46,336	36
Oak Hill,	Oak Hill Coal Co.	Schuykill,	99,640	12,000	3,978	115,618	194	394		1	2,054	15,750	45
East Ridge,	East Ridge Coal Co.	Schuykill,	80,182	6,400	197	86,789	230	172		1	761	9,441	14
Mt. Hope,	Mt. Hope Coal Co.	Schuykill,	53,008	5,000	6,277	64,285	202	181		1	2,095	10,756	14
Newcastle,	Darkwater Coal Co.	Schuykill,	51,123	10,950	17	62,090	215	171	1		496	4,710	11
Silverton,	Silverton Coal Co.	Schuykill,	46,037	15,136	330	61,553	197	249	2		15	32,477	26
Wolf Creek washery,	Stoddart Coal Co.	Schuykill,	56,049	3,640		59,689	182	36					2
Howard,	E. White and Co.	Schuykill,	39,440	7,200	200	46,840	235	125		1	875	925	10
Ellsworth,	John H. Davis	Schuykill,	39,120	3,000	993	43,053	274	130			325	9,000	14
Black Diamond,	Black Diamond Anthracite Coal Co.	Schuykill,	2,195	6,600	500	9,295	35	152	1	2	125	4,100	7
Grand totals,			2,971,527	491,660	33,489	3,501,676	247	8,884	37	47	56,007	564,579	856

TABLE 2.—Recapitulation

Names of Operators	County	Number of tons of coal shipped to market	Number of tons used at collieries for steam and heat	Number of tons sold to local trade and used by employes	Total production of coal in tons	Average number of days worked (not including washeries)	Number of employes	Number of fatal accidents	Number of non-fatal accidents	Number of kegs of powder used	Number of pounds of dynamite used	Number of horses and mules
Philadelphia and Reading Coal and Iron Co., .....	Schuylkill, .....	1,508,876	232,803	29,531	1,762,270	254	4,943	18	24	27,739	293,224	532
S. C. Clair Coal Co., .....	Schuylkill, .....	353,241	71,750	1,411	426,402	245	719	3	0	10,527	13,185	45
The Hill Coal Co., .....	Schuylkill, .....	294,951	14,600	1,275	296,826	290	483	6	2	6,070	28,500	92
Miscellaneous companies, .....	Schuylkill, .....	904,459	172,507	15,212	1,092,178	214	2,739	10	19	11,651	229,570	256
Totals, .....	.....	2,971,527	491,660	38,489	3,501,676	217	8,884	37	47	56,007	564,573	956

TABLE 2.—Continued

Names of Operators	County	Number of boilers				Locomotives			Total horse power	Number of steam engines of all classes	Total horse power	Number of pumps delivering water to surface	Capacity in gallons per minute	Quantity delivered to surface per minute—gallons	Number of electric dynamos	Number of air compressors	
		Cylindrical	Horse power	Tubular	Horse power	Steam	Air	Electric									
Schuylkill.																	
Philadelphia and Reading Coal and Iron Co.		156	3,980	101	14,140	18,130	11	.....	95	29,238	32	33,510	20,324	.....	.....	6	
St. Clair Coal Co.		9	450	18	2,700	3,150	4	.....	22	3,551	4	1,020	700	.....	3	3	
Lytle Coal Co.		.....	.....	26	4,100	4,100	1	.....	14	6,875	.....	5,000	5,000	.....	.....	.....	
Pine Hill Coal Co.		.....	.....	9	1,350	1,350	.....	.....	9	1,220	.....	1,300	850	.....	2	1	
Buck Run Coal Co.		.....	.....	6	900	900	.....	.....	23	729	.....	600	600	.....	.....	.....	
Oak Hill Coal Co.		8	120	10	1,425	1,545	2	.....	9	950	.....	3,400	1,550	.....	.....	.....	
East Ridge Coal Co.		.....	.....	4	450	450	.....	.....	12	630	.....	700	300	.....	.....	.....	
Mt. Hope Coal Co.		4	80	9	745	825	2	.....	10	240	.....	.....	.....	.....	.....	.....	
Darkwater Coal Co.		.....	.....	8	725	725	1	.....	11	725	.....	150	20	.....	.....	.....	
Silverton Coal Co.		8	450	7	1,071	1,521	.....	.....	12	629	.....	1,200	518	.....	.....	1	
Stoddard Coal Co.		.....	.....	4	480	480	.....	.....	8	294	.....	600	.....	.....	.....	.....	
W. W. Smith Co.		6	180	3	425	605	.....	.....	6	258	.....	2,400	1,800	.....	.....	.....	
John H. Davis		.....	.....	6	300	300	.....	.....	3	130	.....	450	.....	.....	.....	1	
Black Diamond Anthracite Coal Co.		.....	.....	2	500	500	.....	.....	9	563	.....	470	470	.....	.....	.....	
Totals.		191	5,270	213	29,311	34,581	21	.....	243	45,942	57	50,800	32,132	.....	5	13	



TABLE 3.—Number of each class of employes inside and outside of mines

Names of Operators and Col- lieries	County	Inside										Outside										Grand totals inside and outside	
		Mine foremen	Assistant mine foremen	Fire bosses and assistants	Miners	Miners' laborers	Drivers and runners	Door boys and helpers	Pumpmen	Company men	All other employes	Total inside	Superintendents	Foremen	Blacksmiths and carpenters	Engineers and firemen	State pickers (boys)	State pickers (men)	Book-keepers and clerks	All other employes	Total outside		
Philadelphia and Reading Coal and Iron Co.	Schuylkill...	4	2	11	242	122	48	14	.....	115	279	837	.....	1	14	60	78	19	3	219	394	1,231	
		2	10	232	116	61	10	9	.....	47	130	650	.....	1	17	39	37	28	2	97	216	906	
		2	8	133	82	33	33	17	.....	35	72	421	.....	1	8	28	56	17	2	110	221	675	
		2	6	178	76	33	33	10	.....	27	64	213	.....	1	4	30	40	25	2	98	204	625	
		1	6	116	48	24	7	.....	.....	27	64	213	.....	1	4	10	40	11	2	111	179	472	
		1	6	21	23	7	5	.....	.....	18	35	116	.....	1	3	27	25	13	1	123	193	309	
		1	7	170	61	20	9	.....	.....	48	123	439	.....	1	5	24	41	44	2	88	205	644	
		.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
		.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
		.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Kalmia washery, Middle Creek washery, Rausch Creek washery,	Schuylkill...	13	4	54	1,112	528	206	64	1	346	861	3,189	.....	8	55	225	317	157	14	901	1,677	4,866	
		.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
		.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
		.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
		.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
St. Clair Coal Co. St. Clair washery, St. Clair washery,	Schuylkill...	13	4	54	1,112	528	206	64	1	346	861	3,189	.....	12	55	225	317	157	17	971	1,754	4,943	
		2	5	155	90	37	12	8	.....	110	419	.....	1	2	20	38	42	12	4	152	271	690	
		.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
Totals,		2	5	155	90	37	12	8	.....	110	419	.....	1	2	20	40	46	12	4	175	300	719	

Lytle Coal Co.	Schuykill..	1	2	9	277	58	46	7	.....	49	116	559	1	1	13	22	38	24	4	85	188	747
Pine Hill Coal Co.	Schuykill..	1	2	3	168	74	42	7	4	8	14	323	1	1	12	13	55	15	2	43	142	465
Black Heath washery,	Schuykill..	1	2	3	168	74	42	7	4	8	14	323	1	1	12	13	55	15	2	43	142	465
Totals.		1	2	3	168	74	42	7	4	8	14	323	1	2	12	14	58	15	2	56	160	483
Buck Run Coal Co.	Schuykill..	1	1	2	110	55	20	4	4	13	53	263	1	1	8	11	21	4	6	67	119	382
Oak Hill Coal Co.	Schuykill..	1	7	13	55	21	4	4	4	30	19	274	2	1	7	24	32	.....	4	50	120	394
East Ridge Coal Co.	Schuykill..	1	1	1	14	8	6	.....	2	5	10	47	1	1	6	8	17	8	2	82	125	172
East Ridge.	Schuykill..	1	1	1	38	38	4	.....	4	.....	4	86	1	1	4	16	19	3	1	50	95	181
Mt. Hope Coal Co.	Schuykill..	1	2	...	29	15	6	.....	6	32	91	1	1	6	7	16	2	1	46	80	171	
Darkwater Coal Co.	Schuykill..	1	4	...	77	24	29	.....	3	18	14	161	1	1	6	16	9	6	2	47	88	249
Silverton Coal Co.	Schuykill..	1	1	1	36	10	2	.....	2	4	11	67	1	1	1	5	3	1	1	23	36	36
Stoddart Coal Co.	Schuykill..	1	1	1	5	16	5	.....	1	20	.....	50	1	1	4	8	15	2	1	48	89	137
Wolf Creek washery.	Schuykill..	1	1	1	5	16	5	.....	1	20	.....	50	1	1	4	8	15	2	1	48	89	137
F. White and Co.	Schuykill..	1	1	1	5	16	5	.....	1	20	.....	50	1	1	4	8	15	2	1	48	89	137
Howard.	Schuykill..	1	1	1	5	16	5	.....	1	20	.....	50	1	1	4	8	15	2	1	48	89	137
John H. Davis	Schuykill..	1	1	1	5	16	5	.....	1	20	.....	50	1	1	4	8	15	2	1	48	89	137
Ellsworth.	Schuykill..	1	1	1	5	16	5	.....	1	20	.....	50	1	1	4	8	15	2	1	48	89	137
Black Diamond Anthracite Coal Co.	Schuykill..	1	1	1	5	16	5	.....	1	20	.....	50	1	1	4	8	15	2	1	48	89	137
Black Diamond.	Schuykill..	1	1	1	5	16	5	.....	1	20	.....	50	1	1	4	8	15	2	1	48	89	137
Grand totals.		26	18	83	2,178	972	412	98	30	508	1,252	5,577	13	29	153	414	633	237	47	1,779	3,397	8,884

TABLE 3.—Recapitulation

Philadelphia and Reading Coal and Iron Co.	Schuykill...	13	4	54	1,112	528	296	64	1	346	861	3,189	.....	12	55	225	317	157	17	971	1,754	4,943
St. Clair Coal Co.	Schuykill...	2	...	5	155	90	27	12	8	.....	110	419	1	2	30	40	46	12	4	175	390	719
Pine Hill Coal Co.	Schuykill...	1	2	3	168	74	42	7	4	8	14	323	1	1	12	13	55	15	2	43	142	465
Miscellaneous companies.	Schuykill...	10	12	21	743	289	127	15	17	154	267	1,646	11	10	66	187	217	53	21	577	1,093	2,739
Totals.		26	18	83	2,178	972	412	98	30	508	1,252	5,577	13	29	153	414	633	237	47	1,779	3,397	8,884



TABLE 4.—Fatal accidents inside and outside of mines

Date of accident	Name of Person		Nationality	Occupation	Age	Married or single	Number of widows	Number of orphans	Name of Mine	County	Nature and Cause of Accident in Brief
Jan.	11	Adam Romp.	American.	Miner.	36	M.	1	6	Lincoln.	Schuylkill.	Fatally burned by explosion of powder. He punched a hole with a file in a keg containing a small quantity of black powder, causing it to ignite. It in turn ignited a full keg in heading.
	13	Lawrence White.	American.	Miner.	26	S.	.....	.....	Lytle.	Schuylkill.	Fatally injured by explosion of a box of dynamite caps which he handled carelessly.
	15	Albert Stutzman.	American.	Repairman.	46	M.	1	3	Lincoln.	Schuylkill.	Fatally injured by being caught between hoisting rope and drum at No. 2 slope engine house. Outside.
	25	William Shortall.	Irish.	Tipman.	20	S.	.....	.....	Pine Hill.	Schuylkill.	Fatally injured by being struck by mine car on top of breaker while attempting to open door of car. Died same day. Outside.
Feb.	8	Daniel Sedron.	Italian.	Miner.	43	M.	1	2	Phoenix Park.	Schuylkill.	Killed while in the act of tamping a charge of dynamite.
	8	Paul Mloskie.	Russian.	Laborer.	25	M.	1	.....	Silverton.	Schuylkill.	Killed by being run over by car. After unhooking car on top of coal plane he leaped from car bumper to middle of track in front of car, tripped and fell beneath it. Outside.
	20	Wm. Hoskins.	English.	Machinist.	58	M.	1	.....	Otto.	Schuylkill.	Died of blood poisoning. While repairing boiler he received scratch on the wrist. Outside.
	29	Mike Bucam.	Slavonian.	Laborer.	40	M.	1	2	Pine Hill.	Schuylkill.	Killed while attempting to cross a sprocket wheel of a scraper line while it was in motion. Outside.
April	7	Henry Hand.	American.	Miner.	30	M.	1	.....	Good Spring.	Schuylkill.	Fatally injured by fall of slate at face of mine. Died April 11.
	25	James Meehan.	American.	Starter.	35	S.	.....	.....	Lytle.	Schuylkill.	Crushed to death by rush of coal at battery.
	26	Louis Catupp.	Austrian.	Driver.	29	S.	.....	.....	Back Run.	Schuylkill.	Fatally injured. While riding on front of trip of cars he was caught between mine car and door frame. Died May 3.

TABLE 4.—Continued

Date of accident	Name of Person	Nationality	Occupation	Age	Married or single	Number of widows	Number of orphans	Name of Mine	County	Nature and Cause of Accident in Brief
April 27	Christ Clappier, .....	American, ..	Driver, .....	22	S.	.....	.....	Lytle, .....	Schuykill,...	Back fractured. While riding on empty car, he slipped and the car passed over him. Died May 2. Outside.
May 26	Michael Murge, .....	Hungarian, ..	Laborer, ...	38	M.	1 4	.....	Otto, .....	Schuykill,...	Killed. He was hauling ashes from boiler room and upon arriving near the end of culm dump he unhitched mule and attempted to cross in front of moving car. He tripped against rail and fell beneath the wheels. Outside.
June 8	Milton F. Martin, .....	American, ..	Shaker watcher, ...	17	S.	.....	.....	Lincoln, .....	Schuykill,...	Killed by falling on shaker shaft. Outside.
2	Mike Saloca, .....	Austrian, ....	Laborer, ...	20	S.	.....	.....	St. Clair, .....	Schuykill,...	Log crushed. He was running cars to breaker, when the cars jammed together. The timber in car next him moved forward, jamming his leg against the car.
Aug 11	George Pedruff, .....	Polish, .....	Miner, .....	59	M.	1 3	.....	Lytle, .....	Schuykill,...	Died June 21. Outside. He hammered a mining needle in the hole and it came in contact with a dynamite cap, causing it to explode the hole in chute at face a piece of coal fell on him. Died August 24.
17	Ralph Bechtel, .....	American, ..	Miner, .....	29	S.	.....	.....	Brookside, .....	Schuykill,...	Fatally injured. While making a prop hole in chute at face a piece of coal fell on him. Died August 24.
25	Eugenio Thakend, .....	Austrian, ....	Miner, .....	22	S.	.....	.....	Pine Hill, .....	Schuykill,...	These four men had commenced a tunnel to form the No. 1 lift on Byck Mountain underground slope. They worked one hour and a half when an explosion occurred, killing all of them. From the testimony elicited at the inquest it would appear to have been a dynamite explosion.
25	Anthony Lombardi, .....	American, ..	Miner, .....	40	M.	1 2	.....	Pine Hill, .....	Schuykill,...	Killed; run over by mine car on No. 1 slope.
25	Frederick Leado, .....	Italian, .....	Miner, .....	40	M.	1 2	.....	Pine Hill, .....	Schuykill,...	Killed by fall of slate at face of gangway.
25	Frank Devigilia, .....	Austrian, ....	Miner, .....	29	S.	.....	.....	Pine Hill, .....	Schuykill,...	
Sept 9	Ephraim C. Neldig, ....	American, ..	Repairman, ..	38	M.	1 4	.....	Lincoln, .....	Schuykill,...	
12	Christopher Honigser, .....	German, .....	Miner, .....	70	M.	.....	.....	Newcastle, .....	Schuykill,...	



Oct.	24	James Butler,	.....	American, ..	Starter, .....	27	S.	.....	Lytle, .....	Schuykill, ..	Suffocated by rush of coal and water while loading from counter chute.
	4	Jacob Snyder,	.....	American, ..	Carpenter, ..	69	M.	1	Brookside, .....	Schuykill, ..	Killed by being run over by mine car while attempting to cross track in front of trip. Outside.
	13	Peter Yucoskey,	.....	Slavonian, ...	Locomotive helper.	19	S.	.....	St. Clair, .....	Schuykill, ..	Killed; he was riding on front of trip that was being pushed by locomotive when he fell beneath cars. Outside.
	19	Adam Kovenas,	.....	Slavonian, ...	Driver, .....	21	S.	.....	Wadesville, .....	Schuykill, ..	Killed; run over by mine car.
	19	Louis Reiner,	.....	American, ..	Driver, ....	18	S.	.....	Brookside, .....	Schuykill, ..	Killed; fell beneath car while coming out to bottom of slope with trip.
Nov.	24	Henry Pendergrast,	.....	American, ..	Tank feeder, 16	S.	S.	.....	Phoenix Park, .....	Schuykill, ..	Suffocated by culm in slush tank. Outside.
	5	Mike Washery,	.....	Slavonian, ...	Laborer, ... 45	M.	M.	.....	Black Diamond, .....	Schuykill, ..	Crushed to death between mine car and mine trestle at foot of plane. Outside.
	8	Jos. Sherman,	.....	American, ..	Miner, .....	37	M.	1	Silverton, .....	Schuykill, ..	Killed by fall of slate while preparing to erect timber.
	9	Paul Ribley,	.....	Slavonian, ...	Machine loader, ..	17	S.	.....	Brookside, .....	Schuykill, ..	Killed by fall of rock bursting from south side of shaft.
	9	Michael Slow,	.....	Slavonian, ..	Machine loader, ..	19	S.	.....	Brookside, .....	Schuykill, ..	Killed by fall of rock bursting from south side of shaft.
	10	John Hoke,	.....	American, ..	Slate picker, 15	S.	S.	.....	Otto, .....	Schuykill, ..	Killed by being caught between jig elevator and platform. Outside.
	21	William Wolf,	.....	American, ..	Conductor, .	27	M	1	Brookside, .....	Schuykill, ..	Fatally injured. Squeezed between mine car and locomotive. Died November 25. Outside.
Dec.	5	Sobeck Shittler,	.....	Slavonian, ...	Miner, .....	40	M.	1	St. Clair, .....	Schuykill, ..	Killed by fall of slate while opening new breast.
	10	Adam Bendigo,	.....	American, ..	Miner, .....	50	M.	1	Brookside, .....	Schuykill, ..	Killed by falling down chute in mine.

TABLE 5.—Non-fatal accidents inside and outside of mines

Date of accident	Name of Person	Nationality	Occupation	Age	Married or single	Name of Mine	County	Nature and Cause of Accident in Brief
Jan.	11 Wm. Dugan, .....	American, ..	Car loader, ..	22	S.	Lytle, .....	Schuykill, ..	Two ribs fractured while applying brake to a moving car. Outside.
12	Thos. J. Slane, .....	Irish, .....	Miner, .....	23	S.	Phoenix Park, .....	Schuykill, ..	Compound fracture of leg; a piece of coal fell from face of breast, striking him on leg.
13	Mark Delaney, .....	American, ..	Miner, .....	23	S.	Lytle, .....	Schuykill, ..	Face and eyes injured by explosion of dynamite caps.
13	John Dougherty, .....	American, ..	Miner, .....	27	S.	Lytle, .....	Schuykill, ..	Face and head injured by explosion of dynamite caps.
13	John O. Malley, .....	American, ..	Miner, .....	25	S.	Lytle, .....	Schuykill, ..	Face and head injured by explosion of dynamite caps.
27	Joe Auguinruss, .....	Slavonian, ..	Laborer, .....	64	M.	Wadesville, .....	Schuykill, ..	Leg fractured by falling from mine car to track in mine while arranging timber in car.
Feb.	5 Michael Argargus, .....	Hungarian, ..	Laborer, .....	27	S.	Lytle, .....	Schuykill, ..	Leg fractured by falling from mine car. Outside.
8	Daniel Angello, .....	Italian, .....	Laborer, .....	26	M.	Phoenix Park, .....	Schuykill, ..	Seriously injured about the body by premature explosion of dynamite.
March	5 Joseph Mitchell, .....	Polish, .....	Miner, .....	45	M.	Wadesville, .....	Schuykill, ..	Burned by gas in attempting to ignite the fuse attached to charge powder. He placed dynamite on powder and safety lamp, tried the lamp, lighting the dynamite, causing the explosion.
5	Mike Minoshe, .....	Polish, .....	Laborer, .....	30	S.	Wadesville, .....	Schuykill, ..	Burned by gas while attempting to ignite fuse.
7	Joseph Nicklo, .....	Italian, .....	Laborer, .....	18	S.	Lytle, .....	Schuykill, ..	Hips squeezed. Caught between mine car and timber. Inside.
14	William Strange, .....	American, ..	Driver, .....	20	S.	Phoenix Park, .....	Schuykill, ..	Leg crushed; run over by mine car.
22	Thomas Campion, .....	American, ..	Miner, .....	32	M.	Buck Run, .....	Schuykill, ..	Burned by gas. Went into chute with naked light.
24	Michael Connors, .....	American, ..	Miner, .....	40	S.	E. Ridge, .....	Schuykill, ..	Leg fractured by fall of coal.
31	Jacob Koplinsky, .....	Polish, .....	Miner, .....	30	M.	Lytle, .....	Schuykill, ..	Head and body injured by rush of coal in chute.
April	5 John White, .....	American, ..	Driver, .....	17	S.	Lytle, .....	Schuykill, ..	Ribs fractured; caught between mine car and door frame.

13	Joseph Fisher, .....	Russian, ..	Miner, .....	35	M. Otto, .....	Schuykill, ..	Arm fractured by fall of coal.
16	Elmer McSurdy, .....	American, ..	Planeman, ..	17	S. Glendower, .....	Schuykill, ..	Arm fractured by fall of coal.
26	George Ackola, .....	Slavonian, ..	Laborer, .....	25	S. Howard, .....	Schuykill, ..	Legs outside, bumped between mine car and timber.
23	Lawrence Koneg, .....	Polish, .....	Laborer, .....	23	S. Mt. Hope, .....	Schuykill, ..	Head squeezed between mine car and timber.
29	Henry Behney, .....	American, ..	Loader, .....	22	S. Brookside, .....	Schuykill, ..	Leg fractured by mule falling on him.
2	John Lord, .....	American, ..	Laborer, .....	24	S. Buck Run, .....	Schuykill, ..	Hips squeezed between mine car and side of tunnel.
6	Andrew Leyshukay, .....	Polish, .....	Miner, .....	42	S. Pine Hill, .....	Schuykill, ..	Leg fractured by fall of coal.
10	Max Nonchur, .....	Austrian, ..	Miner, .....	27	M. Oak Hill, .....	Schuykill, ..	Body injured by fall of slate.
12	John Heebo, .....	Slavonian, ..	Repairman, ..	25	M. St. Clair, .....	Schuykill, ..	Head injured; caught between mine car and top.
1	Stephen McNamee, .....	Irish, .....	Miner, .....	57	M. Brookside, .....	Schuykill, ..	Back injured by fall of coal.
4	Amos Lemke, .....	American, ..	Miner, .....	23	M. Brookside, .....	Schuykill, ..	Hips and knee dislocated by fall of slate.
18	George Scheibly, .....	American, ..	Miner, .....	30	M. Good Spring, .....	Schuykill, ..	Leg fractured by fall of coal.
26	Lawrence Ryan, .....	American, ..	Scraper feeder, ..	14	S. Glendower, .....	Schuykill, ..	Leg fractured. Caught in scraper line. Outside.
22	Henry Parrish, .....	American, ..	Miner, .....	57	S. Lytle, .....	Schuykill, ..	Burned by explosion of gas. After blast, leg examined face of the tunnel with naked lamp stuck on end of long pole.
22	Charles Gerdien, .....	American, ..	Miner, .....	40	S. Lytle, .....	Schuykill, ..	Burned by explosion of gas.
11	John Adams, .....	American, ..	Laborer, .....	19	S. Brookside, .....	Schuykill, ..	Arm fractured. Caught between mine car and timbers.
19	William Marks, .....	American, ..	Miner, .....	32	M. Lincoln, .....	Schuykill, ..	Leg fractured by blast through pillar.
20	Robert Duncan, .....	American, ..	Laborer, .....	64	M. Wadesville, .....	Schuykill, ..	Back injured by falling from scaffold in breaker. Outside.
20	Joseph Zehner, .....	Lithuanian, ..	Miner, .....	25	S. Lytle, .....	Schuykill, ..	Face burned by gas. His butt, unscrewed cup off safety lamp to light his pipe.
20	Michael O'Brien, .....	American, ..	Bottom man, ....	38	S. Glendower, .....	Schuykill, ..	Compound fracture of the knee, bumped between mine cars. Outside.
24	Tony Collatto, .....	Italian, .....	Laborer, .....	30	S. Phoenix Park, .....	Schuykill, ..	Face and hands burned by explosion of gas.
5	Patrick Nolan, .....	American, ..	Chargeman, ....	27	S. Brookside, .....	Schuykill, ..	Head and body bruised by fall of rock from side of shaft.
12	Henry Mease, .....	American, ..	Miner, .....	22	S. Lincoln, .....	Schuykill, ..	Leg fractured by fall of coal.
12	James O'Brien, .....	American, ..	Runner, .....	17	S. Glendower, .....	Schuykill, ..	Head bruised by being caught between mine car and roof.
20	Alexander Strajsky, ..	Russian, ....	Driver, .....	18	S. Lytle, .....	Schuykill, ..	Leg fractured by being bumped between mine cars.
9	John Spok, .....	Slavonian, ..	Laborer, .....	26	S. Brookside, .....	Schuykill, ..	Leg crushed by fall of rock.
18	John Briskee, .....	Slavonian, ..	Laborer, .....	24	M. Wadesville, .....	Schuykill, ..	Back and leg injured by fall of rock in face of gangway.
21	William Hoskins, .....	English, ....	Miner, .....	31	S. Pine Hill, .....	Schuykill, ..	Leg crushed by fall of coal.
28	Edward Connolly, .....	American, ..	Topman, .....	20	S. Black Diamond, .....	Schuykill, ..	Leg fractured. Casing covering hoisting engine steam cylinder burst, fragments of which struck him on the leg. Outside.
28	William Gottschall, .....	American, ..	Driver, .....	20	S. Black Diamond, .....	Schuykill, ..	Leg fractured by bursting covering on cylinder. Outside.
30	William Thomas, .....	American, ..	Driver, .....	18	S. Otto, .....	Schuykill, ..	Face injured by kick from mule.

### Explosion at Pine Hill Colliery of the Pine Hill Coal Company

August 25, Egimeo Tabakini, Anthony Sambeauti, Nicholas Leandado and Frank Devigilia, miners at Pine Hill colliery, were engaged driving a tunnel for the commencement of a new lift on the underground Buck Mountain slope. They commenced work at 4 P. M., and had been working about an hour and a half when an explosion was heard. The assistant mine foreman and contractor were with them when they commenced work and testified at inquest that there was no explosive gas present.

I was absent from the district, by permission, at the time the explosion occurred, and Mr. John Curran, Inspector of the 13th District, made the investigation. I returned and conducted the inquest. From the testimony given by practical men, it would appear that a dynamite explosion had killed the four men.

### Fall of Rock at Brookside Shaft of the Philadelphia and Reading Coal and Iron Company

November 9, Paul Ribley, Michael Slow, John Souk, and others, were working on eleven o'clock shift at bottom of Brookside shaft, cleaning up after a blast, when a piece of rock from south side of shaft, about 10 feet from bottom, bumped loose, catching all three near the centre of the shaft. Ribley and Slow were killed and John Souk's leg was crushed, making amputation necessary. This shaft is being sunk outside of the coal measures and encounters occasional strata of red sandstone. Whenever stratum of this character appears in the shaft sinking, it causes the harder rock to burst without any warning, and on this account a great deal of attention is necessary on the part of the men in charge.

## CONDITION OF COLLIERIES AND IMPROVEMENTS

### PHILADELPHIA AND READING COAL AND IRON COMPANY

West Brookside Colliery.—A water tunnel in No. 4 slope level from No. 5 to No. 4 vein, 67 1-3 yards long. Tunnel in 5th lift basin slope "still driving" was driven 24 1-3 yards.

New outside rock plane to handle rock to protect slush bank, double track, 683 feet long.

East Brookside Colliery.—The water and coal shaft has reached a depth of 1,553 feet. Tunnel from bottom of No. 5 vein slope to bottom of coal and water shaft was driven 188 1-3 yards.

On 7th lift, west No. 4 vein gangway a plane has been driven to 5th lift to work off the saddle coal on No. 4 and No. 5 veins. This



plane will be completed in about three months and will be 216 yards long. They are now retimbering and laying road.

A new Norwalk air compressor, 16x10x16x16 inches, has been erected to furnish air to drive tunnel to bottom of shaft.

Good Spring Colliery.—An Ingersoll and Sergeant air compressor has been erected to furnish air to drive tunnel from surface to Lykens Valley No. 2 vein. This tunnel has been driven 415 feet.

A tunnel in 1st lift No. 3 slope from Mammoth to Holmes vein, 274 feet, completed.

A tunnel in 1st lift No. 3 slope from Skidmore to Bottom Bench to tap water from Eckert's colliery, 97 feet long, was completed, which drained the water from this colliery.

No. 1 slope has been extended from 2d to 3d lift, a distance of 306 feet, and is almost ready for use.

A tunnel at bottom of slope to 4 foot vein, 28 2-3 yards long, completed.

A tunnel 3d lift West Mammoth gangway to 4 foot vein, 28 1-3 yards long, completed.

A tunnel 3d lift West Mammoth gangway to Skidmore, 55 yards long, completed.

A pump-house in 2d lift No. 3 slope.

A 12x48 inch steam pump in 2d lift, No. 3 slope, has been put in place. No. 5 steam bore hole to take steam to 2d lift for 12x48 inch pump 447 feet deep has been completed.

Lincoln Colliery.—A tunnel in 3d lift No. 2 from No. 5 to No. 4, 63 2-3 yards, completed.

A plane on 4th lift, No. 2 slope on No. 5 vein to 3d lift, is practically completed. Length 290 feet.

Pine Kurt shaft was finished sinking October 15th. The depth is 1,249 feet.

A new breaker having a capacity of 2,000 tons is being erected.

Wadesville Colliery.—The water in Beechwood colliery old workings has been tapped through the 7 foot vein and drained successfully through Wadesville colliery.

John Veith Colliery.—Ground was broken June 21st by John Veith, Mining Superintendent, for shafts Nos. 1 and 2, about one-half mile southwest of Phoenix Park colliery. These two shafts are 250 feet apart. They will be sunk a distance of 1,250 feet, intersecting the bottom split of the Mammoth vein at this point. The dimensions of the No. 1 shaft inside of timber 31 feet 2 inches by 12 feet 8 inches, having 4 compartments, 2 coal hoistways 7 feet  $\frac{1}{2}$  inch by 12 feet 8 inches each and one airway 7 feet  $\frac{1}{2}$  inch by 12 feet 8 inches, one compartment being subdivided for two water hoists, dimensions being 6x7 feet  $\frac{1}{2}$  inch. This colliery will be known as



John Veith, thereby perpetuating for years to come the name of the Reading's efficient mining superintendent.

Phoenix Park Colliery.—A new shaft is being sunk 18 feet  $\frac{1}{2}$  inch by 12 feet 8 inches, having two compartments, one of which will be used as airway, dimensions 10x7 feet  $\frac{1}{2}$  inch. The other compartment will be used as second outlet, also to lower coal on Tracey vein to Phoenix slope level. This shaft will be sunk 360 feet, intersecting the Tracey vein at this distance.

Glendower Colliery.—A single track trial slope is being sunk on the Daniel vein on the western end of this colliery. It is now down about 275 feet. It will reach the basin about 300 feet.

The collieries of the Philadelphia and Reading Coal and Iron Company are in good condition.

#### E. WHITE AND COMPANY

Howard Colliery.—This colliery was inundated by a rush of water from Parvin's old slope on November 24, about 4:30 A. M. I visited this colliery November 18 and before leaving I looked the colliery map over with Superintendent White. The distance shown on the map was about 1,187 feet between the face of Parvin's west gangway and Howard lower east. There was 320 feet driven in the lower east gangway since the last survey, leaving 867 feet of a supposed pillar between the two collieries at the time the water broke in. Had this water broken in at the time the men were at work there would no doubt have been considerable loss of life. This is an instance of the uncertainty of the ancient surveys.

The condition of this colliery is fair.

#### PINE HILL COAL COMPANY

Pine Hill Colliery.—Three return tubular boilers, 150 horse power each; one pair of hoisting engines 18x24 inches at slope; one 10x12 engine at washery. One 17x20 inch high speed direct connected McEwen engine, 250 horse power; one new dynamo of 150 kilowatts has been added to the plant.

The Buck Mountain slope has been sunk 400 feet during the year. The shaft is down 367 feet below the present level.

The condition of this colliery is good.

#### ST. CLAIR COAL COMPANY

St. Clair Colliery.—The condition of this colliery is good.

#### MT. HOPE COAL COMPANY

Mt. Hope Colliery.—The condition of this colliery is fair.

## JOHN H. DAVIS

Ellsworth Colliery.—The condition of this colliery is good.

## EAST RIDGE COAL COMPANY

East Ridge Colliery.—The condition of this colliery is good.

## BLACK DIAMOND ANTHRACITE COAL COMPANY

Black Diamond Colliery.—The condition of this colliery is good.

## OAK HILL COAL COMPANY

Oak Hill Colliery.—The water level drift that was abandoned for a number of year has been reopened and operations begun in the Buck Mountain vein, which at present looks very favorable.

A tunnel has been driven north on the 5th level cutting the Buck Mountain seam.

The condition of this colliery is good.

## BUCK RUN COAL COMPANY

Buck Run Colliery.—Two tunnels have been driven from the Crosby vein to Daniel vein on second level. Slope extended to Daniel vein from first to second level. A large compound condensing Jeansville pump has been installed to deliver all the water in the colliery to the surface. A 16 foot fan has been almost completed for the Daniel vein. A tunnel has been started from the Daniel vein, second level, through which a slope will be sunk to open up the third level coal.

Condition of this colliery is good.

## DARKWATER COAL COMPANY

New Castle Colliery.—A new breaker of 500 tons capacity, has been erected and equipped with engines and machinery for handling the output. Completion of new boiler house containing four 150 H. P. return tubular boilers. Installation on outside haulage road. Purchase of steam shovel for stripping purpose. Sinking slope on the north dip Skidmore vein in the back basin from the surface to the basin, and tunnel across the basin to the south dip. Installation of permanent engines on this slope. Inside slope started on Primrose vein main basin and slope started on Jugular vein, back basin. Both of these slopes have been discontinued.

Condition of this colliery is fair.

## SILVERTON COAL COMPANY

Silverton Colliery.—Air hole from Salem vein to surface has been driven a distance of 731 feet. The area is 64 feet. A new Guibal

fan sixteen feet in diameter, blades 4x4 inches, has been installed, which has improved the ventilation in this section.

### Breaker Improvements

Two new shaking screens, one jig and three spiral separators. Two 150 H. P. return tubular boilers were added to the steam plant. Condition of this colliery has improved since last report.

#### LEHIGH VALLEY COAL COMPANY

Blackwood Colliery.—Work has been started on the erection of a new breaker of 1,000 tons capacity. The intention is to have it in operation in July, 1905.

A four compartment shaft 14 feet 2 inches by 34 feet 2 inches in the clear was started September 15 and sunk to a depth of 46 feet to a medium hard rock. It was concreted from the point to a height of 58 feet, or 12 feet above level of surface. This shaft is to be sunk to the level of Blackwood Tunnel about 200 feet.

The main boiler room is 49x79 feet, with an extension of 33x35 feet. In the main building are located four batteries of B. and W. boilers of 300 H. P. each. In the extension a force draft fan engine has been placed, also a Cochran hot water heater and two 10x6x12 inch hot water feed pumps. The boilers are all in place and one battery is in use. The following buildings have been completed and are now in use: Office, 26x34 feet; warehouse, 21 feet 6 inches by 84 feet; carpenter, blacksmith and machine shops, 52x56 feet.

This colliery is to be equipped with electrical haulage throughout. A tunnel 7x10 feet in the clear, with a ditch one foot deep and 3 feet wide, is to be driven from the face of Blackwood tunnel through the mountain to Black Creek for the purpose of obtaining a supply of good water for the boiler and company house use.

This colliery has been abandoned for a period of seven or eight years.

#### LYTLE COAL COMPANY

Lytle Colliery.—A rock airway from Big Diamond vein 4th level to Little Diamond vein on 2d level, a distance of 180 feet. Tunnel from Big Diamond to Little Diamond 4th level to connect with shaft, 130 feet. Tunnel from West White Ash to West 4-foot, 40 feet; tunnel from East White Ash to East 4-foot, 40 feet; tunnel from West Black Heath to West Skidmore, 55 feet; tunnel from East Black Heath to East Skidmore, 60 feet; one set of spiral separators in breaker.

Condition of this colliery is good.

#### SNYDER AND COMPANY

Lorberry Colliery.—A new breaker of 500 tons capacity has been

erected, one tubular boiler, 300 H. P., installed. No coal was mined at this colliery during the year.

### Mine Foremen's Examinations

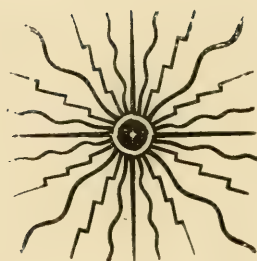
The annual examination for mine foremen and assistant mine foremen was held in the court house, Pottsville. The board was composed of the following members: Michael J. Brennan, Inspector; John Maguire, Supt., Pottsville; Fred Ossman, miner, Newtown; Jacob Amos, miner, Branchdale. The following named persons were recommended as having passed a satisfactory examination and received certificates:

### Mine Foremen

Salathiel Harris, Minersville; James G. Stewart, Llewellyn.

### Assistant Mine Foremen

Andrew Dutter, Wade; Pierce Kessler, Port Carbon.





# Thirteenth District

SCHUYLKILL COUNTY

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Pottsville, Pa., March 3, 1905.

Hon. James E. Roderick, Chief of Department of Mines:

Sir: I have the honor of herewith presenting my report as Inspector of Mines for the Thirteenth Anthracite District for the year ending December 31, 1904.

Respectfully submitted,

JOHN CURRAN,  
Inspector.

## SUMMARY OF STATISTICS

Number of collieries, .....	22
Number of mines, .....	34
Number of mines in operation, .....	34
Number of tons of coal shipped to market, .....	2,640,384
Number of tons used at mines for steam and heat, .....	362,858
Number of tons sold to local trade and used by employes, .....	62,928
Number of tons of coal produced, .....	3,066,170
Number of persons employed inside of mines, .....	5,151
Number of persons employed outside, .....	3,088
Number of fatal accidents inside of mines, .....	24
Number of fatal accidents outside, .....	9
Number of non-fatal accidents inside of mines, .....	98
Number of non-fatal accidents outside, .....	24
Number of tons of coal produced per fatal accident inside, .....	127,757
Number of persons employed per fatal accident inside, ...	215
Number of persons employed per fatal accident outside, ...	343
Number of persons employed per non-fatal accident inside, .....	53
Number of persons employed per non-fatal accident outside, .....	128
Number of wives made widows by fatal accidents, .....	20
Number of children orphaned by fatal accidents, .....	50
Number of steam locomotives used inside of mines, .....	9
Number of steam locomotives used outside, .....	25
Number of compressed air locomotives used inside, .....	4
Number of fans used for ventilation, .....	26
Number of gaseous mines in operation, .....	18
Number of non-gaseous mines in operation, .....	16
Number of new mines opened, .....	2
Number of old mines abandoned, .....	1

TABLE A

## PRODUCTION OF COAL

Names of Operators	Tons
Lehigh Coal and Navigation Company, .....	876,732
Philadelphia and Reading Coal and Iron Company, .....	499,341
Mill Creek Coal Company, .....	464,044
Lehigh and Wilkes-Barre Coal Company, .....	484,594
Coxe Brothers and Company, Incorporated, .....	298,531
Beddall Brothers, .....	100,061
Dodson Coal Company, .....	94,385
Truman M. Dodson Coal Company, .....	93,199
Gorman and Campion, .....	35,606
Butcher Creek Coal Company, .....	30,698
D. Shepp Estate, .....	20,763
Dunkleberger and Young, .....	14,027
William Cooke, .....	8,331
Joseph H. Denning, .....	6,333
Slattery Brothers, .....	3,627
Neil Breslin, .....	2,505
Wm. H. Greenfield, Jr., and Company, .....	26,475
Smith, Meyers and Company, .....	6,918
Total, .....	3,066,170

## Production by Counties

Schuylkill, .....	3,066,170
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TABLE B.—Fatal and non-fatal accidents inside and outside of mines; number of tons of coal produced per accident; number of persons employed; number employed per accident

Names of Operators	Fatal Accidents			Non-Fatal Accidents			Tons of coal produced per fatal accident inside	Tons of coal produced per non-fatal accident inside	Number of employees inside	Number of employees outside	Total number of employees	Number of employees inside per fatal accident	Number of employees outside per fatal accident	Number of employees inside per non-fatal accident	Number of employees outside per non-fatal accident									
	Fatal Accidents		Total	Non-Fatal Accidents		Total																		
	Inside	Outside		Inside	Outside																			
Lehigh Coal and Navigation Co.,	5	2	7	13	3	16	175,346	67,411	1,494	759	2,253	299	380	115	253									
Philadelphia and Reading Coal and Iron Co.,	2	2	4	18	5	23	249,670	27,741	992	522	1,454	466	154	52	104									
Mill Creek Coal Co.,	4	3	7	23	1	24	116,611	26,176	624	307	931	291	147	27	40									
Lehigh and Wilkes-Barre Coal Co.,	3	3	6	5	11	16	161,531	80,766	872	449	1,312	139	147	83	83									
Coxe Brothers and Co., Inc.,	3	3	6	7	3	10	90,510	50,706	417	248	665	83	139	12	100									
Beddall Brothers,	1	1	2	6	1	7	100,061	14,294	82	100	183	83	126	30	252									
Dodson Coal Co.,	3	2	5	7	1	8	31,462	13,484	212	252	464	71	126	30	252									
Truman M. Dodson Coal Co.,	1	1	2	19	1	20	33,199	4,363	286	192	478	286	126	15	15									
Gorman and Campton,	1	1	2	19	1	20	33,199	4,363	286	192	478	286	126	15	15									
Mary D Coal Company,	1	1	2	19	1	20	33,199	4,363	286	192	478	286	126	15	15									
Miscellaneous companies,	1	1	2	19	1	20	33,199	4,363	286	192	478	286	126	15	15									
Totals and averages for district,	24	9	33	98	24	122	175,757	31,257	5,151	3,088	8,239	215	343	53	125									

TABLE C.—Classification of fatal accidents inside and outside of mines

	Inside										Outside							Grand total						
	By Falls of			By mine cars	By explosion of gas	Smothered by gas	By powder and dynamite	By blasts, etc.	By Falling Into			Crushed at batteries	By mules	Suffocated by coal, etc.	Miscellaneous causes	Total Inside	By cars		By machinery	By suffocation	By boiler explosions	Miscellaneous causes	Total outside	
	Coal	Slate	Roof	Shafts	Slopes	Manways, breasts, etc.																		
January, .....											1						1							1
February, .....			1																					1
March, .....																								
April, .....		2																						
May, .....									1															
June, .....	1																							
July, .....			3																					
August, .....							1																	
September, .....	2		1								1								1					
October, .....																								
November, .....			1	3	2																			
December, .....																								
Totals, .....	3	2	6	2	2		1	5	1		1				1		24	2	1					29

•Railroad.

\*Railroad.





TABLE E.—Occupations of persons killed or fatally injured inside and outside of mines

	Inside										Outside								Grand total			
	Mine foremen	Assistant mine foremen	Fire bosses and assistants	Miners	Miners' laborers	Drivers and runners	Door-boys and helpers	Pumpmen	Company men	All other employes	Total inside	Superintendents	Foremen	Blacksmiths and carpenters	Engineers and firemen	Slate pickers (boys)	Slate pickers (men)	Book-keepers and clerks		All other employes	Total outside	
January.....				1							1									3	4	1
February.....				1							1										1	1
March.....				1							1										1	1
April.....				1							1										1	1
May.....				1							1										1	1
June.....				1							1										1	1
July.....				1	1				1		4									1	1	1
August.....				3							1									1	1	1
September.....				1							1									1	1	1
October.....				1	1					1	4									2	2	4
November.....				1	3						4									2	2	4
December.....				13	6	1			1		24			1						2	9	23
Totals.....									1	3				1						2	9	23



TABLE G.—Nationality of Persons Killed or Fatally Injured Inside and Outside of Mines

	American	English	Welsh	Irish	Polish	Hungarian	Italian	Slavonian	Lithuanian	Russian	Totals
January, .....		1		1	1					1	4
February, .....						1					1
March, .....	1				1	1					2
April, .....											1
May, .....	2										2
June, .....	1		1						2		4
July, .....	1					1					2
August, .....	1				1	1		2			5
September, .....	1						1				2
October, .....	2		1		1						4
November, .....						3	1	2			6
December, .....											
Totals, .....	8	1	2	2	4	7	2	4	2	1	33

TABLE H.—Nationality of Persons Injured Inside and Outside of Mines

	American	Welsh	Irish	German	Polish	Hungarian	Italian	Slavonian	Lithuanian	Austrian	Russian	Tyrolian	Totals
January, .....	7			2	7	1					1		18
February, .....	6				3		2			1			12
March, .....	4			2	4			3	1				14
April, .....	2		3		3	2			1				11
May, .....	1			2				1					4
June, .....	6				3								9
July, .....	3				4	1	1		3				12
August, .....	2			1	3	2		2	1	1		1	13
September, .....	5			1	1				3			1	11
October, .....	3							2					4
November, .....	3	1			3	1			2				10
December, .....	1				1	1			1				4
Totals, .....	42	1	3	8	32	8	3	8	12	2	1	2	72





Lehigh and Wilkes-Barre Coal Co.																
Honey Brook No. 5,	Slope.....	Gaseous,	Fan.....	15	4.5	3.1	65	1	Guibal,	Steam....	4	56,425	58,340	118	474	
Green Mountain,	Slope.....	Non-gas.	Fan.....	15	4.4	4.8	65	1.8	Guibal,	Steam....	4	37,590	38,900	119	316	
No. 8 South Dip tunnel,	Drift.....	Non-gas.	Fan.....	8	3.2	2.2	68	1	Guibal,	Steam....	2	28,140	30,000	26	1,082	
Academy No. 1,	Slope.....	Gaseous,	Fan.....	16	3.8	4.3	95	1	Guibal,	Steam....	8	116,000	116,890	129	899	
Audubon No. 11,	Slope.....	Gaseous,	Fan.....	12	3.4	4	90	.7	Guibal,	Steam....	2	43,000	43,000	53	811	
Audubon No. 16,	Slope.....	Non-gas.	Fan.....	12	3.4	4	90	.8	Guibal,	Steam....	2	43,000	43,000	53	811	
Coxe Brothers and Co., Inc.																
Onelda No. 1,	Shaft.....	Gaseous,	Fan....	12.6	5.3	5.10	130	1%	Pelzer,	Steam....	10	46,470	46,470	119	391	
Onelda No. 1,	Slope.....	Gaseous,	Fan....	20	6	5.9	70	1	Guibal,	Steam....	3	28,000	28,000	25	1,120	
Onelda No. 2,	Shaft.....	Non-gas.	Fan....	20	6	6.6	60	.9	Guibal,	Steam....	6	72,500	72,500	133	545	
Onelda No. 3,	Slope.....	Non-gas.	Fan....	20	6	6.6	60	.9	Guibal,	Steam....	6	72,500	72,500	133	545	
Beddall Brothers																
Greenwood,	Drift.....	Gaseous,	Fan....	12	3.3	4	*	.....	Guibal,	Steam....	7	11,120	12,000	27	412	
Greenwood,	Slope.....	Gaseous,	Fan....	12	3.3	4	*	.....	Guibal,	Steam....	7	11,120	12,000	27	412	
Dodson Coal Co.																
Morea,	Shaft.....	Gaseous,	Fan....	18	10	6	89	1.5	Guibal,	Steam....	10	57,060	57,060	122	468	
Morea,	Slope.....	Gaseous,	Fan....	24	6.10	6	75	1.7	Guibal,	Steam....	10	57,060	57,060	122	468	
Truman M. Dodson Coal Co.																
Kaska William,	Shaft.....	Gaseous,	Fan....	16	4	5	62	.5	Guibal,	Steam....	10	82,310	82,310	234	352	
Kaska William,	Shaft.....	Gaseous,	Fan....	24	6	5.10	65	1.5	Guibal,	Steam....	10	82,310	82,310	234	352	
Gorman and Champion																
Bell,	Drift.....	Non-gas.	Natural,													
Butcher Creek Coal Co.																
Laurel Run,	Slope.....	Non-gas.	Natural,													
D. Shepp Estate																
East Lehigh,	Drift.....	Gaseous,	Fan.*	12	3.6	3.6	140	.9	Guibal,	Steam....	1	8,500	8,500	37	230	
Punkleberger and Young																
West Lehigh,	Drift.....	Non-gas.	Fan.*	12	4	3.4	60	.6	Guibal,	Steam....	1	5,000	5,000	4,000	19	263
William Cook																
Oakley,	Slope.....	Non-gas.	Natural,													
Joseph H. Denning																
Sebastopol,†	Drift.....	Non-gas.	Natural,													
Slattery Brothers																
Tuscarora,	Drift.....	Non-gas.	Natural,													
Nell Breslin																
Coal Hill,	Drift.....	Non-gas.	Natural,													

\*Force fans abandoned.

†Abandoned.

TABLE 1.—Operators, location of collieries, railroads, etc.

Names of Operators and Collieries	County	Name of General Superintendent	Post Office	Name of Superintendent	Post Office	Railroad to Mine
Lehigh Coal and Navigation Co. Colliery No. 8, ..... Colliery No. 10, ..... Colliery No. 11, ..... Colliery No. 12, .....	Schuylkill,.....	Wm. D. Zehner, ..	Lansford, ..	Baird Snyder Jr.,...	Lansford, .....	C. R. R. of N. J.
Philadelphia and Reading Coal and Iron Co. Silver Creek, ..... Eagle Hill, .....	Schuylkill,..... Schuylkill,.....	Wm. J. Richards, Wm. J. Richards,	Pottsville, Pottsville, .....	John Veith, ..... John Veith, .....	Pottsville, Pottsville, .....	P. and R. P. and R.
Mill Creek Coal Co. Buck Mountain, ..... Vulcan, ..... Middle Lehigh, .....	Schuylkill,.....	T. D. Jones, .....	New Boston, ....	J. Elmer Jones, ..	New Boston, ....	Lehigh Valley
Lehigh and Wilkes-Barre Co. Honey Brook No. 5, ..... Audenried No. 4, .....	Schuylkill,..... Schuylkill,.....	C. F. Huber, ..... C. F. Huber, .....	Wilkes-Barre, .. Wilkes-Barre, ..	George B. Hadesty, George B. Hadesty,	Audenried, ..... Audenried, .....	C. R. R. of N. J. C. R. R. of N. J.
Coxe Brothers and Co., Inc. Oneida Nos. 1, 2, 3, .....	Schuylkill,.....	L. C. Smith, .....	Drifton, .....	.....	.....	D. S. and S.
Greenwood, Beddall Brothers Dodson Coal Co.	Schuylkill,..... Schuylkill,..... Schuylkill,.....	E. L. Bullock, .... E. L. Bullock, .... E. L. Bullock, .....	Audenried, ..... Audenried, ..... Audenried, .....	M. A. Gerber, .... J. H. Dugan, .....	Tamaqua, ..... Morea, .....	C. R. R. of N. J. Lehigh Valley
Truman M. Dodson Coal Co. Kaska William, .....	Schuylkill,.....	E. L. Bullock, .....	Audenried, .....	Thos. J. Williams,	Kaska, .....	P. & R., & C. R. R. of N. J.
Gorman and Camplon Bell, .....	Schuylkill,.....	.....	.....	Dan, Slattery, .....	Tuscarora, ..	P. and R.
Butcher Creek Coal Co. Laurel Run, .....	Schuylkill,.....	James J. Whims,...	St. Clair, .....	James J. Whims,...	St. Clair, .....	P. and R.
D. Shepp Estate East Lehigh, .....	Schuylkill,.....	.....	.....	E. M. B. Shepp, ..	Tamaqua, .....	P. and R.

<b>Junkleberger and Young</b>						
West Lehigh, .....	Schuykill, .....	John Young, .....	Tamaqua, .....	W. C. Dunkelberger	Tamaqua, .....	P. and R.
Oakley, .....	Schuykill, .....	.....	.....	Wm. Cooke, .....	Tuscarora, .....	P. and R.
<b>Sebastopol, .....</b>	Schuykill, .....	.....	.....	<b>Joseph H. Denning,</b>	St. Clair, .....	P. and R.
<b>Slattery Brothers</b>	Schuykill, .....	.....	.....	<b>Dan. Slattery, ....</b>	Tuscarora, .....	P. and R.
Tuscarora,* .....	Schuykill, .....	.....	.....	<b>Neil Breslin, .....</b>	Middleport, .....	P. and R.
Coal Hill, .....	Schuykill, .....	.....	.....	<b>Fred H. John, .....</b>	Middleport, .....	P. and R.
<b>Wm. H. Greenfield, Jr. and Co.</b>	Schuykill, .....	.....	.....	<b>Henry Myers, .....</b>	Minersville, .....	P. and R.
Pine Dale washery, .....	Schuykill, .....	.....	.....			
<b>Smith, Meyers and Co.</b>	Schuykill, .....	.....	.....			
Washery, .....	Schuykill, .....	.....	.....			

\*Abandoned in March.

TABLE 2.—Number of tons of coal mined, number of days worked, number of persons employed, number killed and injured, quantity of powder and dynamite used, etc.

Names of Operators and Collieries	County	Number of tons of coal shipped to market	Number of tons used at collieries for steam and heat	Number of tons sold to local trade and used by employes	Total production of coal in tons	Number of days worked. (Totals are averages, not including washeries)	Number of employees	Number of fatal accidents	Number of non-fatal accidents	Number of kegs of powder used	Number of pounds of dynamite used	Number of horses and mules
Lehigh Coal and Navigation Co.												
Colliery No. 8	Schuylkill	282,750	17,836	9,405	289,991	267	591	2	12	240	97,400	113
Colliery No. 10	Schuylkill	234,283	26,078	8,131	268,497	264	727	1	1	1,266	82,825	85
Colliery No. 11	Schuylkill	174,113	16,969	6,835	197,907	108	581	3	1	340	51,000	72
Colliery No. 12	Schuylkill	107,351	12,586	.....	120,377	570	334	1	.....	660	38,400	35
Totals		778,522	73,809	24,401	876,732	247	2,253	7	16	2,706	289,725	315
Philadelphia and Reading Coal and Iron Co.												
Silver Creek	Schuylkill	246,012	28,664	3,771	278,447	262	852	.....	15	4,918	15,371	78
Eagle Hill	Schuylkill	185,832	32,897	2,165	220,894	259	602	2	8	1,394	33,470	63
Totals		431,844	61,561	5,936	499,341	261	1,454	2	23	6,312	48,841	141
Mill Creek Coal Co.												
Buck Mountain	Schuylkill	223,289	18,223	.....	241,522	241	450	3	15	7,051	18,250	35
Vulcan	Schuylkill	202,347	20,175	.....	222,522	237	451	3	8	6,584	10,825	33
Middle Lehigh	Schuylkill	.....	.....	.....	.....	30	30	.....	.....	.....	.....	.....
Totals		425,636	38,408	.....	464,044	229	591	6	23	14,325	29,075	68
Lehigh and Wilkes-Barre Coal Co.												
Honey Brook No. 3	Schuylkill	319,438	26,858	.....	346,296	293	804	5	6	3,880	123,380	48
Undertint No. 4	Schuylkill	59,763	34,966	3,569	138,298	113	490	1	11	4,152	70,279	59
Miscellaneous	Schuylkill	.....	.....	.....	.....	78	78	.....	.....	.....	.....	.....
Totals		419,201	61,824	3,569	484,594	203	1,312	6	17	8,032	193,658	107

\*General carpenter force, car shop, machine shop and chain gang.

†No shipments.

Owner	Schuykill	255,191	59,455	3,885	298,531	252	665	3	8	6,182	22,938	88
Coxe Brothers and Co., Inc. Onida Nos 1, 2 and 3	Schuykill											
Greenwood, Beddall Brothers	Schuykill	85,538	4,490	10,123	100,661	281	183	1	8	187	10,725	19
Morea, Dodson Coal Co.	Schuykill	65,513	28,090	872	94,385	135	464	5	8	5,152	28,200	62
Truman M. Dodson Coal Co. Kaska William	Schuykill	65,217	27,375	697	92,199	125	478	1	19	2,725	25,520	36
Gorman and Campton	Schuykill	34,089	1,500	17	35,606	229	91	1	.....	450	6,750	12
Butcher Creek Coal Co.	Schuykill	28,187	2,460	111	30,698	239	98	.....	.....	.....	1,450	8
D. Shepp Estate	Schuykill	15,816	600	4,347	20,763	230	75	.....	.....	100	4,400	11
Bunkleberger and Young	Schuykill	8,994	1,225	3,808	14,027	245	53	.....	.....	25	4,800	9
William Cooke	Schuykill	6,957	469	905	8,331	269	18	.....	.....	447	275	4
Joseph H. Denning	Schuykill	1,794	600	3,939	6,333	270	32	.....	.....	.....	750	10
Slattery Brothers	Schuykill	3,489	60	78	3,627	51	57	.....	.....	75	1,500	3
Noel Breslin	Schuykill	2,003	172	330	2,505	246	14	.....	.....	180	800	4
Wm. H. Greenfield, Jr. and Co., Pine Dale washery	Schuykill	26,075	400	.....	26,475	240	24	.....	.....	.....	.....	1
Smith, Meyers and Co.	Schuykill	6,318	600	.....	6,918	59	37	.....	.....	.....	.....	2
Mary D. Coal Co.	Schuykill	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....
Grand totals		2,640,354	362,858	62,628	3,066,170	229	8,239	33	122	47,329	670,317	897

‡Abandoned.

§No coal shipped.



TABLE 2.—Recapitulation

Names of Operators	County	Number of tons of coal shipped to market	Number of tons used at collieries for steam and heat	Number of tons sold to local trade and used by employees	Total production of coal in tons	Average number of days worked (not including washeries)	Number of employees	Number of fatal accidents	Number of non-fatal accidents	Number of kegs of powder used	Number of pounds of dynamite used	Number of horses and mules
Lehigh Coal and Navigation Co. ....	Schuylkill.....	778,522	73,809	24,401	876,732	247	2,253	7	16	2,706	289,725	315
Philadelphia and Reading Coal and Iron Co., ....	Schuylkill.....	431,844	61,561	5,936	499,341	261	1,454	2	23	6,512	48,841	141
Mill Creek Coal Co., .....	Schuylkill.....	425,636	38,408	.....	464,044	239	931	6	23	14,235	29,075	68
Lehigh and Wilkes-Barre Coal Co., .....	Schuylkill.....	419,201	61,824	3,569	484,594	203	1,312	6	17	8,032	193,668	107
Miscellaneous companies, .....	Schuylkill.....	585,181	127,256	29,022	741,459	184	2,289	12	43	15,844	109,008	266
Totals, .....		2,640,384	362,858	62,938	3,066,170	220	8,239	33	122	47,329	670,317	897

TABLE 2.—Continued

Names of Operators	County	Number of Boilers				Locomotives			Total horse power	Number of steam engines of all classes	Total horse power	Number of pumps delivering water to surface	Capacity in gallons per minute	Quantity delivered to surface per minute—gallons	Number of electric dynamos	Number of air compressors
		Cylindrical	Horse power	Tubular	Horse power	Total horse power	Steam	Air	Electric							
Lehigh Coal and Navigation Co., .....	Schuylkill	45	768	54	7,018	7,786	8	.....	.....	91	2,462	9	10,960	4,600	.....	1
Philadelphia and Reading Coal and Iron Co., .....	Schuylkill	20	500	21	3,490	3,990	.....	.....	.....	19	5,116	7	6,800	4,000	.....	2
Miners' Coal Co., .....	Schuylkill	52	2,960	9	1,750	4,710	4	3	.....	38	3,610	9	8,400	2,000	.....	1
Lehigh and Wilkes-Barre Coal Co., .....	Schuylkill	49	1,960	24	3,430	5,390	8	.....	.....	35	4,070	11	16,811	7,035	.....	1
Coke Brothers and Co., Inc., .....	Schuylkill	24	880	25	3,200	4,080	5	1	.....	35	2,000	8	7,770	4,662	.....	1
Beddall Brothers, .....	Schuylkill	7	420	.....	.....	420	2	.....	.....	9	147	.....	.....	.....	.....	.....
Dodson Coal Co., .....	Schuylkill	12	200	23	2,400	2,600	5	.....	.....	17	1,125	.....	5,000	2,000	.....	1
Truman M. Dodson Coal Co., .....	Schuylkill	12	1,440	.....	.....	1,440	.....	.....	.....	12	1,300	2	2,350	1,500	.....	.....
Gorman and Champion, .....	Schuylkill	2	175	.....	.....	175	.....	.....	.....	8	130	.....	1,200	.....	.....	.....
Butcher Creek Coal Co., .....	Schuylkill	3	226	.....	.....	226	.....	.....	.....	11	135	.....	.....	.....	.....	.....
D. Shepp Estate, .....	Schuylkill	2	300	.....	.....	300	.....	.....	.....	13	200	.....	.....	.....	.....	.....
Dunkleberger and Young, .....	Schuylkill	4	225	.....	.....	225	.....	.....	.....	3	30	.....	.....	.....	.....	.....
William Cooke, .....	Schuylkill	.....	.....	1	60	60	.....	.....	.....	3	50	.....	.....	.....	.....	.....
Joseph H. Downing, .....	Schuylkill	1	18	.....	.....	18	.....	.....	.....	3	50	.....	.....	.....	.....	.....
Slattery Brothers, .....	Schuylkill	.....	.....	1	75	75	1	.....	.....	2	95	.....	.....	.....	.....	.....
Neal Bros., .....	Schuylkill	.....	.....	1	12	12	.....	.....	.....	1	12	.....	.....	.....	.....	.....
Wm. H. Greenfield, Jr. and Co., .....	Schuylkill	.....	.....	2	80	80	.....	.....	.....	2	45	1	300	.....	.....	.....
Smith, Meyers and Co., .....	Schuylkill	.....	.....	2	250	250	1	.....	.....	8	172	.....	.....	.....	.....	.....
Totals, .....		234	10,061	164	21,780	31,841	34	4	.....	308	21,149	53	53,591	25,777	2	9





TABLE 3.—Recapitulation

Names of Operators	County	Inside										Outside										Grand totals inside and outside	
		Mine foremen	Assistant mine foremen	Fire bosses and assistants	Miners	Miners' laborers	Drivers and runners	Door boys and helpers	Pumpmen	Company men	All other employes	Total inside	Superintendents	Foremen	Blacksmiths and carpenters	Engineers and firemen	Slate pickers (boys)	Slate pickers (men)	Book-keepers and clerks	All other employes	Total outside		
Lehigh Coal and Navigation Co.	Schuylkill,	7	9	17	330	221	110	54	14	209	433	1,494	....	4	24	86	168	148	4	825	759	2,253	
Philadelphia and Reading Coal and Iron Co.		2	1	17	324	242	50	11	4	75	206	932	....	2	17	54	124	89	4	232	522	1,454	
Mill Creek Coal Co.		3	2	11	323	144	42	10	4	44	31	624	....	2	18	51	44	124	6	62	307	931	
Lehigh and Wilkes-Barre Coal Co.		2	2	4	237	175	40	7	7	140	258	872	3	6	30	48	106	16	2	229	440	1,312	
Miscellaneous companies, .....		13	14	4	592	148	120	30	17	81	201	1,229	13	13	57	128	167	83	13	586	1,060	2,289	
Totals, .....		27	28	53	1,816	930	371	112	46	639	1,129	5,151	16	27	146	367	609	460	29	1,434	3,088	8,239	



TABLE 3.—Continued

Names of Operators	County	Average Number of Days Worked in Breaker												Total
		January	February	March	April	May	June	July	August	September	October	November	December	
Lehigh Coal and Navigation Co., .....	Schuylkill, ..	20	23	18	16	18	25	24	22	21	20	20	20	247
Philadelphia and Reading Coal and Iron Co., ..	Schuylkill, ..	21	21	17	24	22	26	22	22	17	23	24	24	261
Mill Creek Coal Co., .....	Schuylkill, ..	22	16	23	18	21	22	21	17	14	22	21	22	239
Lehigh and Wilkes-Barre Coal Co., .....	Schuylkill, ..	23	21	16	23	24	18	14	11	12	22	21	22	239
Coxe Brothers and Co., Inc., .....	Schuylkill, ..	14	20	23	19	23	23	18	25	22	23	23	14	203
Beddall Brothers, .....	Schuylkill, ..	23	24	24	22	24	25	22	25	24	24	22	21	232
Bedson Coal Co., .....	Schuylkill, ..	19	19	2	4	5	4	5	3	17	21	20	22	231
Truman and Podson Coal Co., .....	Schuylkill, ..	5	..	..	..	..	7	5	3	17	21	20	16	133
Green and Campbell, .....	Schuylkill, ..	22	22	13	..	..	23	18	20	19	18	18	20	193
Butcher Creek Coal Co., .....	Schuylkill, ..	21	20	16	25	16	17	19	19	17	24	23	21	229
D. Shepp Estate, .....	Schuylkill, ..	20	21	14	18	15	21	20	17	18	23	25	23	239
Dunkleberger and Young, .....	Schuylkill, ..	17	23	22	21	18	12	23	20	20	22	21	21	230
William Cooke, .....	Schuylkill, ..	21	23	22	21	25	24	21	23	21	21	24	24	245
Joseph H. Denning, .....	Schuylkill, ..	24	23	23	24	23	23	23	24	23	22	23	24	269
Slattery Brothers, .....	Schuylkill, ..	23	16	12	..	..	..	..	..	..	..	..	..	276
Neil Breslin, .....	Schuylkill, ..	20	21	23	22	19	24	16	21	20	20	13	22	51
General averages, .....	.....	19	19	17	16	17	18	18	18	18	20	20	20	220

TABLE 4.—Fatal accidents inside and outside of mines

Date of accident	Name of Person	Nationality	Occupation	Age	Married or single	Number of widows	Number of orphans	Name of Mine	County	Nature and Cause of Accident in Brief
Feb. 1	Charles Tanner, .....	English, .....	Carpenter, .....	55	M.	1	....	Audenried No. 4, ....	Schuylkill,	Fatally injured by falling from a plank walk adjoining the scraper line leading to the boiler house. Died at Hazleton Hospital February 2. Outside.
24	John Yeshleys, .....	Polish, .....	Laborer, ...	32	M.	1	3	Vulcan, .....	Schuylkill,	Killed by timber rolling on him on timber bank. Outside.
24	Frank Prudella, .....	Russian, ....	Laborer, ...	44	M.	1	6	Vulcan, .....	Schuylkill,	Killed by timber rolling on him on timber bank. Outside.
25	Wm. B. Boyle, .....	Irish, .....	Laborer, ...	57	M.	1	....	No. 11 L. C. and N. Co.	Schuylkill,	Fatally injured by being struck with locomotive at mouth of tunnel, while in act of opening door, to allow locomotive to pass. Died at Miners' Hospital March 7. Outside.
March 21	John Art, .....	Hungarian,...	Miner, .....	39	M.	1	1	No. 5 Honey Brook, ...	Schuylkill,	Fatally injured by fall of rock while shoveling coal in to a chute. Died at Hazleton Hospital May 27.
April 22	Thomas O'Neil, .....	American, ..	Miner, .....	39	M.	1	7	Kaska William, .....	Schuylkill,	Fatally injured by a piece of slate falling on him. Died at Miners' Hospital April 25.
28	John Novack, .....	Hungarian,...	Asst. machine runner, .....	24	S.	....	....	No. 10 L. C. and N. Co.	Schuylkill,	Killed by a piece of slate falling on him from side of shaft.
May 12	Joseph Karakaski, ..	Polish, .....	Miner, .....	27	M.	1	....	Bell, .....	Schuylkill, ..	Fatally injured by a blast. Died in Miners' Hospital May 15.
June 2	Wm. J. Walker, .....	American, ..	Car loader, ..	25	S.	....	....	No. 11 L. C. and N. Co.	Schuylkill,	Fatally injured by falling under the gondola cars on turnout at breaker. Died in Miners' Hospital June 4. Outside.
7	John Boyer, .....	American, ..	Miner, .....	30	M.	1	1	Eagle Hill, .....	Schuylkill,	Fatally injured; struck on the head by a piece of coal. Died June 19.
23	Charles Yoto, .....	Lithuanian, ..	Laborer, .....	28	S.	....	....	Buck Mountain, .....	Schuylkill,	Killed by a fall of rock on bottom turn-out. No. 1 level.
22	Wm. Bucopsky, .....	Lithuanian, ..	Laborer, .....	24	S.	....	....	Buck Mountain, .....	Schuylkill,	Killed by a fall of rock on bottom turn-out. No. 1 level.
25	John Boner, .....	American, ..	Chute starter, ..	23	S.	....	....	No. 8 L. C. and N. Co.	Schuylkill,	Killed by a rush of coal in battery of No. 19 chute. West Big vein.

28	John Phillips,	Welsh,	Miner,	28	M.	1	1	Vulcan,	Schuykill,	Fatally injured by a piece of coal falling on him in face of breast. Died September 7.
Aug.	1	Irvin Fethers,	American,	Loader,	24	S.	.....	Greenwood,	Schuykill,	Killed by an explosion of dynamite that he is supposed to have been carrying in his bosom.
	13	Paul Ugler,	Hungarian,	Laborer,	24	S.	.....	Mary D,	Schuykill,	Fatally injured by falling from a platform while passing the same day.
Sept.	8	Frank Preputrick,	Hungarian,	Miner,	34	M.	1	4	Onelda No. 1,	Killed by falling down a roadway in No. 17, breast No. 11, East Buck Mountain vein.
	20	John Langazo,	Slavonian,	Miner,	38	M.	1	5	Morea,	Fatally injured by a fall of coal in breast No. 93, West Buck Mountain vein.
	20	John Vasilindia,	Slavonian,	Laborer chain gang,	18	S.	.....	Morea,	Schuykill,	Fatally injured, caught by a pulley in the breaker. Died on the way to the Miners' Hospital. Outside.
	22	Matthew McCann,	American,	Laborer,	23	.....	.....	Morea,	Schuykill,	Killed by a fall of coal at the face of the East Skidmore gangway No. 1 level.
	30	Jacob Sluenski,	Polish,	Miner,	33	M.	1	2	Eagle Hill,	Killed by a fall of rock while skipping pillars in West Primrose vein.
Oct.	13	John Campbell,	Irish,	Miner,	50	M.	1	4	No. 8 L. C. and N. Co.,	Fatally injured by a blast.
	24	John Sack,	Italian,	Laborer,	30	M.	1	5	No. 5 Honey Brook,	Fatally injured by the front part of a safety he was taking apart falling on him. Died same day. Outside.
Nov.	4	Philip Thomas,	American,	Repairman,	40	M.	1	4	No. 12 L. C. and N. Co.,	Fatally injured on the slope. Died at the Miners' Hospital November 5.
	10	David Jones,	American,	Diver,	23	S.	.....	Morea,	Schuykill,	Fatally injured, fell under a trip of loaded cars. Died November 12.
	11	John Walesky,	Polish,	Miner,	45	M.	1	1	Buck Mountain,	Killed by a blast he was firing in the top coal in his breast.
	26	Howell Davis,	Welsh,	Miner,	30	M.	1	.....	No. 11 L. C. and N. Co.,	Killed by a fall of top rock at the face of Wharton vein, gangway No. 2, counter No. 15 slope.
Dec.	2	Fritz Lucas,	Slavonian,	Miner,	37	M.	1	5	No. 5 Honey Brook,	Killed by a blast at the face of East Wharton vein, gangway No. 2, counter No. 15 slope.
	2	Lausin Prodosky,	Hungarian,	Laborer,	23	S.	.....	No. 5 Honey Brook,	Schuykill,	Fatally injured. Struck by the dipper of the steam shovel in the stripping. Died the same day. Outside.
	2	Mike Patriska,	Slavonian,	Laborer,	30	M.	1	.....	Morea,	Killed by being struck with the dipper of the steam shovel on the Green Mountain stripping. Outside.
	17	Samuel Muskella,	Italian,	Laborer,	18	.....	.....	No. 5 Honey Brook,	Schuykill,	Fatally injured by an explosion of gas. Died at Hazleton Hospital same day.
	19	Joseph Herold,	Hungarian,	Laborer,	25	S.	.....	Onelda No. 1,	Schuykill,	Fatally injured by an explosion of gas. Died at Hazleton Hospital same day.
	19	Frank Koels,	Hungarian,	Laborer,	32	M.	1	1	Onelda No. 1,	Died at Hazleton Hospital same day.

TABLE 5.—Non-fatal accidents inside and outside of mines

Date of accident	Name of Person	Nationality	Occupation	Age	Married or single	Name of Mine	County	Nature and Cause of Accident in Brief
Jan. 4	James Curran, .....	American, ..	Miner, .....	23	M.	Kaska William, .....	Schuykill,	Hands and face burned by gas. He went up in the chute; was driving with naked lamp on his head.
4	Amos J. Hartmanft, ..	American, ..	Driver, .....	25	M.	Greenwood, .....	Schuykill,	Hand crushed. Caught between mine car and timber.
6	Yach Auspach, .....	German, .....	Miner, .....	54	M.	Silver Creek, .....	Schuykill,	Leg bruised. A piece of coal struck him and bruised down the chute.
9	Jos. Ramzie, .....	Polish, .....	Driver, .....	19	S.	Silver Creek, .....	Schuykill,	Leg bruised. Caught between two empty cars on top of No. 1 plane.
9	John Butsko, .....	Polish, .....	Laborer, .....	28	S.	Silver Creek, .....	Schuykill,	Body bruised. A piece of rock fell on him at the bottom of No. 3 plane.
12	Charles Berger, .....	German, .....	Stripping boss, ..	30	M.	Buck Mountain, .....	Schuykill,	Scalp wound. Car jumped the track in the slope and knocked out a set of timbers. He was on the car. A piece of rock fell from the top and struck him on the head.
12	John Molsney, .....	Russian, .....	Bottom man, ..	20	S.	Buck Mountain, .....	Schuykill,	Scalp wound. He was on the car with Berger, when it jumped the track. A piece of rock fell and struck him on the head.
13	Charles Cunningham, ..	American, ..	Miner, .....	33	S.	Buck Mountain, .....	Schuykill,	Hands and face burned by gas. He went up in his breast, after firing a shot with a naked lamp on his head.
13	Stiney Cheelts, .....	Polish, .....	Laborer, .....	24	S.	Buck Mountain, .....	Schuykill,	Head and face bruised and cut. He was laboring for Cunningham and was burned in the same manner.
15	Thomas Davis, .....	American, ..	Driver, .....	26	S.	Silver Creek, .....	Schuykill,	Face injured. Kicked in the face by a mule at the bottom of shaft.
19	George Beddow, .....	American, ..	Locomotive engineer, ..	29	M.	Morea, .....	Schuykill,	Face and head cut. Ran into a closed door on the gangway in coming out with a loaded trip.
19	George Miller, .....	American, ..	Patcher, .....	30	S.	Morea, .....	Schuykill,	Leg bruised. He was patcher for Beddow when he ran into the closed door.

21	Ben Griffith,	.....	American, ..	Patcher, .....	22	S.	Audenried No. 4, .....	Schuykill,	Fingers bruised. He attempted to hold a latch. Closed while a trip of cars was passing over it. Outside.
22	Peter Yescavage,	.....	Polish, .....	Miner, .....	30	S.	Eagle Hill, .....	Schuykill,	Hands and face burned by gas. Went away from his place of work and walked into a new breast with a naked lamp on his head.
26	Mike Comoskey,	.....	Hungarian, ..	Fireman, .....	40	M.	No. 5 Honey Brook, ..	Schuykill,	Face cut and back injured. Was riding on a trip of cars from his work. The car jumped the track and he was thrown to the ground. Outside.
29	Mike Cussock,	.....	Polish, .....	Miner, .....	39	S.	Kaska William, .....	Schuykill,	Hands and face burned by gas. He was working in a chute with a naked lamp. The gas accumulated and ignited from the chute.
29	Michael Speece,	.....	Polish, .....	Miner, .....	30	M.	Eagle Hill, .....	Schuykill,	Hands burned by gas. He went up in his breast with a naked lamp on his head.
29	Waleute Cherletski,	.....	Polish, .....	Miner, .....	24	M.	Audenried No. 4, .....	Schuykill,	Head cut by a fall of top coal in breast.
5	John Hodgson,	.....	American, ..	Patcher, .....	25	M.	Morea, .....	Schuykill,	Back and chest hurt. He was riding on front of a locomotive and was pushed through a closed door that he should have opened.
5	Patrick Curren,	.....	American, ..	Laborer, .....	27	S.	Audenried No. 4, .....	Schuykill,	Dislocation of right hip. Caught between two dumpers, one standing, the other coming down a heavy grade. Outside.
10	John Murrey,	.....	American, ..	Driver, .....	22	S.	Silver Creek, .....	Schuykill,	Body bruised. Kicked by a mule and fell under mine car.
11	James Heeney,	.....	American, ..	Miner, .....	39	M.	Buck Mountain, .....	Schuykill,	Body bruised. Struck by a piece of coal flying from a shot.
11	Eugene Cunningham,	.....	American, ..	Driver, .....	25	S.	Morea, .....	Schuykill,	Leg bruised. Bumped between two loaded cars in the turnout.
11	Toney Boagervich,	.....	Polish, .....	Laborer, .....	49	S.	No. 12 L. C. and N. Co.	Schuykill,	Leg broken. He was in the timber chute that conveys the timber down to the counter. His partner on the top threw down a stick of timber and struck him on the leg.
17	John McGee,	.....	American, ..	Patcher, .....	17	S.	Audenried No. 4, .....	Schuykill,	Contusion of left leg. He was riding between the bumpers of a trip of loaded cars. The front car jumped the track, and he was caught between the two cars.
18	Peter Marchette,	.....	Austrian, .....	Miner, .....	31	S.	Oneida No. 2, .....	Schuykill,	Small bone broken in right leg and head and arm cut. A slip of coal fell off the pillar and struck him, knocking him down the chute.
22	John Jumper,	.....	Italian, .....	Car coupler, ..	22	S.	No. 5 Honey Brook, ....	Schuykill,	Arm bruised. Caught between the empty cars trying to couple them. Outside.
22	Andrew Petunes,	.....	Italian, .....	Slate picker, ..	15	S.	No. 5 Honey Brook, ....	Schuykill,	Leg broken. A piece of short steel standard struck the side of the breaker fell on him. Outside.
23	Peter Rinevage,	.....	Polish, .....	Miner, .....	38	S.	Buck Mountain, .....	Schuykill,	Hands and face burned by gas. He was working in No. 106 breast. West Buck vein, No. 5 lift, and went into No. 105 breast with a naked lamp on his head and ignited the gas.

Feb.



TABLE 5.—Continued

Date of accident	Name of Person	Nationality	Occupation	Age	Married or single	Name of Mine	County	Nature and Cause of Accident in Brief
Feb. 27	Peter Malesky, .. .. .	Polish, .....	Miner, .....	35	M.	Buck Mountain, .....	Schuylkill,	Hands and face burned by gas. He was driving the car up along side the slope, 7th ill. He fired a shot and went back, and he or his laborer lit the gas.
March 4	John Please, .....	Slavonian,...	Laborer, .....	24	S.	No. 10 L. C. and N. Co.,	Schuylkill,	Body and head bruised. A piece of coal fell on him and knocked him down the breast.
4	Andrew Rerty, .....	Slavonian,...	Car loader, .....	49	M.	Oneida, .....	Schuylkill,	Leg cut off. He was running cars under the breaker to load them. He slipped and fell under the wheels. Outside.
10	Oliver Rantner, .....	German,...	Driver, .....	16	....	No. 10 L. C. and N. Co.,	Schuylkill,	Foot crushed. He slipped and fell under a mine car. Outside.
10	John Clausis, .....	German,...	Driver, .....	18	....	No. 10 L. C. and N. Co.,	Schuylkill,	Leg crushed. In trying to unhook the spreader from a mine car he slipped and fell under it. Outside.
12	Stephen Parsch, .....	Slavonian,...	Miner, .....	32	M.	No. 10 L. C. and N. Co.,	Schuylkill,	Leg broken. The collar of a set of gang-way timbers slipped off the legs and fell on him.
15	Elmer Geiger, .....	American, ..	Carpenter, .....	36	M.	Eagle Hill, .....	Schuylkill,	Body bruised and face cut. A piece of timber that he was handling in the breaker caught in a belt wheel flew up, and struck him under the chin, knocking him off the platform. Outside.
18	Chas. Case, .....	American, ..	Footman, .....	19	....	Audenried No. 4, .....	Schuylkill,	Foot bruised. In taking off the chain on the foot of the plane he missed unhitching from the car. The car was derailed and caught his foot. Outside.
21	Harry Bernhardt, .....	American, ..	Miner, .....	38	M.	No. 2 Oneida, .....	Schuylkill,	Leg broken. He was taking up a piece of timber off the gangway when an empty trip of cars that was passing caught the timber, swung it around and caught his leg against the rib of the chute.

23	Wm. Stenalo, .....	Lithuanian, .....	Miner, .....	28	M. Kaska William, .....	Schuykill, .....	Leg broken. A piece of slate from the upper side of heading he was working in fell on him.
25	Jos. Grubofski, .....	Polish, .....	Miner, .....	26	S. Silver Creek, .....	Schuykill, .....	Body bruised, hands and face cut. He had sticks of dynamite in a hole and went to place a cartridge of black powder in with a case drill. It exploded the whole charge.
28	Robert Bonokiles, .....	Polish, .....	Laborer, .....	27	S. Silver Creek, .....	Schuykill, .....	Face and hands cut. He was laboring for Grubofski and was assisting him when the blast went off.
30	Geo. Youtko, .....	Polish, .....	Miner, .....	45	M. Buck Mountain, .....	Schuykill, .....	Face and hands burned by powder. He was sitting in a breast heading. He lit some fuse to test it and it flew into an open keg of powder that was in the heading.
32	Andrew Vargo, .....	Polish, .....	Miner, .....	45	M. Buck Mountain, .....	Schuykill, .....	Face and hands burned by powder. He was assisting Youtko in testing the fuse when the powder was ignited.
33	Dennis McGee, .....	American, ..	Assistant to Loc. engineer.	19	S. Audenried No. 4, .....	Schuykill, .....	Compound fracture of the great toe. He had his foot out to hold a latch in position while the cars were passing over it. It slipped off the rail and caught his toe. Outside.
April 7	George Koran, .....	Hungarian, ..	Driver, .....	21	S. Onelda No. 1, .....	Schuykill, .....	Left arm broken. He was riding to the barn on a mule. It frightened at a passing locomotive and threw him to the ground. Outside.
14	James Kroll, .....	Polish, .....	Laborer, .....	42	M. Audenried No. 4, .....	Schuykill, .....	Finger crushed. He was spragging a dumper on the end of the rock bank, and his hand got caught between the derrick frame and the sprag. Outside.
21	Lewis Yinsky, .....	Lithuanian, ..	Miner, .....	35	S. Buck Mountain, .....	Schuykill, .....	Skull fractured. A piece of coal flying from a shot in the next breast came through the heading and struck him.
22	John Bassler, .....	American, ..	Miner, .....	39	M. Kaska William, .....	Schuykill, .....	Head and arms cut by a fall of coal breaking down his fore pole at the face of the gangway.
22	James Murphy, .....	Irish, .....	Miner, .....	43	M. Kaska William, .....	Schuykill, .....	Body and legs bruised. A piece of slate fell on him. Outside.
25	Andrew Cosimek, .....	Polish, .....	Loader, .....	25	S. Vulcan, .....	Schuykill, .....	Hips and legs injured. He was caught between the frame of the door on the gangway and the mine cars.
26	Peter Yacus, .....	Polish, .....	Miner, .....	55	M. Vulcan, .....	Schuykill, .....	Back injured by a fall of coal at the face of the breast.
28	George Hess, .....	American, ..	Machine run- ner.	32	M. No. 10 L. C. and N. Co., .....	Schuykill, .....	Back injured. A piece of slate fell from the side of the shaft and struck him.
28	John Sintosh, .....	Hungarian, ..	Machine run- ner.	35	S. No. 10 L. C. and N. Co., .....	Schuykill, .....	Back and foot injured. A piece of slate fell from the side of the shaft and struck him.
28	Alexander Doyle, .....	Irish, .....	Miner, .....	49	M. Eagle Hill, .....	Schuykill, .....	Hands and face burned by gas. He uncovered his safety lamp in the breast and ignited the gas.

TABLE 5. —Continued

Date of accident	Name of Person	Nationality	Occupation	Age	Married or single	Name of Mine	County	Nature and Cause of Accident
April 23	John Devinney, .....	Irish, .....	Miner, .....	50	M.	No. 8 L. C. and N. Co.,	Schuylkill,	Shoulder bruised. He knocked a prop from under a collar on the gangway, and in falling it struck him.
May 4	John Gallagher, .....	American, ..	Driver, .....	20	S.	Audenried No. 4, .....	Schuylkill,	Hips bruised between mine cars on turn-out.
7	Celestial Heitz, .....	German, .....	Carpenter, .....	45	M.	Silver Creek, .....	Schuylkill,	Index finger cut off. Hand caught between sheave wheel and rope on top of shaft. Outside.
10	Frederick Stutz, .....	German, .....	Carpenter, .....	63	M.	Silver Creek, .....	Schuylkill,	Both legs injured. Caught between mine cars while repairing them. Outside.
26	John Davidiak, .....	Slavonian, ..	Laborer, .....	45	M.	Morea, .....	Schuylkill,	Leg fractured. A piece of clay rolled from side of new water channel and struck him.
June 2	Thomas Delay, .....	American, ..	Loader, .....	20	S.	Greenwood, .....	Schuylkill,	Leg fractured by rush of coal from battery.
4	Simon August, .....	Polish, .....	Laborer, .....	40	M.	Buck Mountain, .....	Schuylkill,	Leg fractured by piece of coal from blast. Head cut by piece of plank falling down new shaft.
8	Paul Gunkel, .....	Polish, .....	Laborer, .....	25	S.	Eagle Hill, .....	Schuylkill,	Leg fractured by dumper falling on him.
10	Lloyd Frye, .....	American, ..	Laborer, .....	17	S.	Greenwood, .....	Schuylkill,	Leg and hands burned by explosion of gas. Went to his place of work against orders with naked lamp on his head.
14	Louis Rise, .....	Polish, .....	Miner, .....	39	M.	Greenwood, .....	Schuylkill,	Back bruised by piece of coal falling on him at face of breast.
20	Michael Slane, .....	American, ..	Miner, .....	33	M.	Audenried No. 4, .....	Schuylkill,	Collar bone fractured. He failed to unhitch his team and was caught between mules and car.
24	Edward McBride, .....	American, ..	Driver, .....	27	S.	Audenried No. 4, .....	Schuylkill,	Leg fractured by piece of rock falling from bucket while ascending shaft.
25	Michael Malone, .....	American, ..	Machine loader, ..	23	S.	L. C. and N. Co., No. 10,	Schuylkill,	Hip dislocated between bumpers of two loaded cars on top of No. 1 plane.
28	O. W. Langton, .....	American, ..	Loader boss, ..	30	M.	Silver Creek, .....	Schuylkill,	Foot squeezed between box and truck of slate dumper. Outside.
July 6	Wassel Gladdis, .....	Hungarian, ..	Driver, .....	22	S.	Honey Brook No. 5, ..	Schuylkill,	Hand bruised by rail falling on it. Outside.
6	Michael Haggerty, ....	American, ..	Asst. loco eng. 27	27	S.	Honey Brook No. 5, ..	Schuylkill,	





TABLE 5.—Continued

Date of accident	Name of Person	Nationality	Occupation	Age	Married or single	Name of Mine	County	Nature and Cause of Accident in brief
Sept.	1 Ulysses Adams, .....	American, ..	Miner, .....	40	M.	Kaska William, .....	Schuykill,	Burned by gas. Lagging a set of timbers on gangway he put his head in hole over the gangway.
1	George Dimmerling, ....	American, ..	Miner, .....	24	M.	Kaska William, .....	Schuykill,	Body bruised. Coal fell from pillar and struck him, in manway.
1	Joseph Tabor, .....	Lithuanian, ..	Miner, .....	38	S.	Kaska William, .....	Schuykill,	Head cut by piece of coal.
8	Thomas Cuddy, .....	American, ..	Laborer, .....	27	S.	Grenwood, .....	Schuykill,	Foot crushed. Car jumped off track at foot of outside slope and caught him beneath it.
12	John Berger, .....	American, ..	Miner, .....	45	M.	L. C. and N. Co., No. 10, .....	Schuykill,	Leg fractured. While barring piece of coal off pillar it fell on him.
12	Samuel Bone, .....	American, ..	Miner, .....	54	S.	L. C. and N. Co., No. 10, .....	Schuykill,	Ribs fractured. Fell from platform to gangway.
12	Anthony Pheilus, .....	Lithuanian, ..	Driver, .....	29	S.	Kaska William, .....	Schuykill,	Finger fractured. Caught between spreader hook and car.
13	Joseph Shacovage, .....	Lithuanian, ..	Miner, .....	35	S.	Kaska William, .....	Schuykill,	Back bruised by fall of coal.
23	Simon Sambotte, .....	Tyroleian, ..	Miner, .....	35	S.	Onelda, .....	Schuykill,	Arm and finger fractured by fall of coal in breast.
24	John Koncuskey, .....	Polish, .....	Miner, .....	33	M.	Silver Creek, .....	Schuykill,	Burned by gas. He returned to face of breast after blasting with naked light.
30	John Unsen, .....	German, .....	Miner, .....	46	M.	Vulcan, .....	Schuykill,	Foot cut. Piece of coal fell on it.
Oct. 12	Thomas Goodman, .....	American, ..	Miner, .....	38	M.	Buck Mountain, .....	Schuykill,	Leg fractured by fall of coal in breast.
12	Andrew Antalowski, .....	Slavonian, ..	Driver, .....	28	M.	Morea, .....	Schuykill,	Wrist strained between timber and mine head cut. Caught between chute and mine car.
12	John Hostick, .....	Slavonian, ..	Driver, .....	26	S.	Morea, .....	Schuykill,	Head cut. Caught between chute and mine car.
29	John Croll, .....	American, ..	Driver, .....	18	S.	Onelda No. 3, .....	Schuykill,	Shoulder fractured. Car jumped track and caught him against low side of gangway.
Nov. 9	David Phillips, .....	Welsh, .....	Miner, .....	28	M.	L. C. and N. Co., No. 10, .....	Schuykill,	Hands and face burned by gas. Went to face of chute with naked light, knowing gas to be present.
9	John Main, .....	American, ..	Miner, .....	28	S.	L. C. and N. Co., No. 10, .....	Schuykill,	Hands and face burned by gas at face of chute.
9	Christ Eisenberg, .....	American, ..	Loader, .....	25	S.	L. C. and N. Co., No. 10, .....	Schuykill,	Hands and face burned by gas at face of chute.



11	John Novicks, .....	Polish, .....	Laborer, .....	27	S.	Buck Mountain, .....	Schuylkill,	Leg fractured by a lump of coal rolling down counter chute.
17	Alexander Meskeenes, ..	Lithuanian, ..	Loader, .....	31	M.	Kaska William, .....	Schuylkill,	Head injured between timber and mine car on high side of gangway.
19	Anthony Sugusky, ....	Polish, .....	Miner, .....	25	M.	Morea, .....	Schuylkill,	Foot cut by piece of clog falling on it.
24	Peter Sinecave, .....	Lithuanian, ..	Laborer, .....	28	S.	Kaska William, .....	Schuylkill,	Foot bruised by piece of gangway timber falling on it.
24	Charles Varlinsky, ....	Hungarian, ..	Laborer, .....	22	S.	L. C. and N. Co., No. 11,	Schuylkill,	Face and hands with naked light.
26	Charles Liddel, .....	American, ..	Slate picker, ..	17	S.	Eagle Hill, .....	Schuylkill,	Hurt internally. While running from breaker at noon he tripped and fell on his stomach. Outside.
28	John Barsofskie, .....	Polish, .....	Miner, .....	42	M.	Silver Creek, .....	Schuylkill,	Hands and face burned by gas. Walked into new breast devoid of tail brattice with naked light.
3	Frank Logan, .....	American, ..	Miner, .....	34	M.	Kaska William, .....	Schuylkill,	Foot bruised by piece of slate falling on it.
15	Charles Dohyesky, ....	Polish, .....	Laborer, .....	26	S.	Mudle Lehigh, .....	Schuylkill,	Head injured between timber and mine car.
17	Charles Kester, .....	Lithuanian, ..	Miner, .....	32	M.	Kaska William, .....	Schuylkill,	Hands and face burned by gas. Walked into chute with naked light on his head.
28	Peter Batiste, .....	Hungarian, ..	Car runner, ..	24	M.	Oneida No. 1, .....	Schuylkill,	Leg fractured by fall of coal while assisting to stand set of timbers which had been displaced by runaway cars.

**Fire at No. 11 Colliery of the Lehigh Coal and Navigation Company**

A mine fire started at this colliery March 5, 1904. The timbermen had been timbering the turnout east of the pumphouse in the Mammoth vein and east of the bottom of the shaft. The timber was very dry. Before leaving their work, the timbermen are supposed to make a thorough examination to see that they leave no fire after them. At 2 o'clock in the morning, after they had left, the pumpman discovered the fire, but before he could get help to extinguish it, it had gained such headway that he had to go up the shaft to save himself. Water was turned into the shaft and it was flooded, above the danger point. Thirty-seven head of cattle were lost and considerable damage done around pumphouse and stable. The stable had to be abandoned; it was sealed, leaving twenty-nine dead mules in it. The colliery did not resume work until June 1st.

**CONDITION OF COLLIERIES****LEHIGH COAL AND NAVIGATION COMPANY**

At Nos. 8, 10, 11 and 12 collieries the ventilation and drainage are in fair condition.

**PHILADELPHIA AND READING COAL AND IRON COMPANY**

Eagle Hill Colliery.—The ventilation and drainage are good.

Silver Creek.—Sanitary condition is good.

**MILL CREEK COAL COMPANY**

Buck Mountain Colliery.—There has been a marked improvement in the condition of this mine, especially in the ventilation.

Vulcan Colliery.—The ventilation in this colliery is fair, except on the third level; ventilation in this section is poor, depending largely on natural ventilation. I have no doubt that when proper connection is made to the fan the ventilation will be good.

Middle Lehigh Colliery.—They are cleaning the upper lift gangways, while pumping the water out of the lower levels at the colliery.

**LEHIGH AND WILKES-BARRE COAL COMPANY**

Audenried No. 4 and Honey Brook No. 5 Collieries.—The sanitary condition as to drainage and ventilation in both these collieries is good.

**COXE BROTHERS AND COMPANY, INCORPORATED**

Oneida Colliery Nos. 1, 2 and 3.—The drainage in these mines is exceptionally good. The volume of air is sufficient when kept to the face of the working places.

## BEDDALL BROTHERS

Greenwood Colliery.—The sanitary condition of this colliery is fair.

## TRUMAN M. DODSON COAL COMPANY

Kaska William Colliery.—The ventilation in this colliery is fair; drainage and roads are bad.

## GORMAN AND CAMPION

Bell Colliery.—The sanitary condition of this colliery is fair.

## WILLIAM COOKE

Oakley Colliery.—The sanitary condition of this colliery is fair.

## DODSON COAL COMPANY

Morea Colliery.—There are no improvements in the sanitary condition of this colliery. The drainage and road beds are in bad condition. The ventilation could be much better than it is.

## D. SHEPP ESTATE

East Lehigh Colliery.—The sanitary condition of this colliery is fair.

## DUNKLEBERGER AND YOUNG

West Lehigh Colliery.—The sanitary condition of this colliery is fair.

## IMPROVEMENTS

## LEHIGH COAL AND NAVIGATION COMPANY

No. 10 Colliery.—Two shafts have been sunk. One for water, 20 feet square, with four compartments; the other a coal shaft, 13 by 17 feet, with two compartments, to a depth of 600 feet. A tunnel has been driven south to Orchard vein, a distance of 28 feet and north to Primrose vein 200 feet. Continuing north to Forty foot vein, 150 feet; from Forty foot to Mammoth vein, 422 feet. This is one lift below the lower level of the old No. 10 slope workings on the Mammoth vein.

A sump tunnel has been driven south from the water shaft a distance of 175 feet. Three new batteries, 600 H. P. each, of sterling boilers, have been installed, making a total of 2,400 H. P., which will be used for the new shaft operations. A new breaker of 1,500 tons capacity has been completed with all the latest improved machinery.

A new pumping plant, consisting of a pair of Goyne duplex pumps, has been installed at the Panther Creek to supply wash water to the breaker during the dry seasons.

At No. 11 Colliery a pair of 30x60 inch hoisting engines manufactured by the Vulcan Iron Company was installed for the purpose of operating the coal shaft. A battery of 500 H. P. Sterling boilers has also been installed.

A tunnel from G. to H. vein has been driven, cutting H vein at a distance of 140 feet, and is still being driven north to cut the veins on south dip. An air tunnel with an area of 70 feet has been driven over main tunnel from Mammoth to H. vein, a distance of 307 feet.

A pumping plant has been erected at the Schuylkill river north of Tamaqua, consisting of four Erie boilers of 100 H. P. each, and two Goyne Duplex pumps to pump water from the Schuylkill river for the purpose of extinguishing the fire in the Mammoth vein at this point 1,100 feet of 12 inch cast iron column pipe and 2,500 feet of wooden troughs to convey the water from these pumps to the drill holes that have been sunk from the surface to the fire, an average depth of 156 feet.

#### DODSON COAL COMPANY

Morea Colliery.—Five tubular boilers were installed, a new boiler house built, the breaker plane rebuilt from the slope to the main breaker, the shaft sunk 16 feet to allow more room for water tanks and a tunnel 160 feet long, driven through an anticlinal on the second level which will probably open up the main basin. A rope hole has been drilled to the Buck Mountain vein on the West S. dip; another is being drilled for a steam pipe for pump. This will also serve No. 4 inside slope which is now being sunk to reach the basin. The new flume is nearly completed. This will contain nearly 400,000 feet of lumber. It is 16 feet by 6 feet in sections and 1,900 feet long. This flume is built to change the course of the stream to permit them to strip the surface off the coal in the centre of the basin.

A new 65 ton steam shovel has been put in the stripping.

#### PHILADELPHIA AND READING COAL AND IRON COMPANY

Silver Creek Colliery.—A single track underground slope is being sunk in the East bottom bench of Mammoth vein south dip shaft level. It is down 295 feet. It is the intention to sink it 900 feet, making three lifts average dip of slope 20 degrees. A pair of engines on top of inside slope with 14x30 inch cylinder drum 4 feet 6 inches diameter, run by compressed air, is used for sinking. A bore hole is put down from the surface to a depth 800 feet for the purpose of putting a rope down through it to hoist the coal from the underground slope with engines on the surface. On No. 1 plane a tunnel is being driven from the bottom bench of Mammoth vein south dip north through anticlinal to Windy Harbor basin. Distance driven for the year, 385 feet.



On No. 3 plane, a new plane has been driven making a lift of 300 feet above No. 3 plane in the east bottom bench Mammoth vein south dip. On top of this plane a tunnel has been driven north cutting the Skidmore vein at 75 feet.

Eagle Hill Colliery.—The sinking of the new shaft started in December, 1903, is down 625 feet. The air tunnel from Skidmore vein to Mammoth vein at 51 West Skidmore is completed, a distance of 108 feet. A tunnel has been completed from bottom split of Mammoth vein to Seven foot vein at No. 47 breast west of Seven foot. The coal from the bottom split will be brought through this tunnel to Seven foot which will give them an opportunity to rob last section of bottom split.

#### MILL CREEK COAL COMPANY

Buck Mountain.—No. 3 slope, Buck Mountain vein, north dip, has been sunk an additional lift to the seventh level; and the gangways, east and west, are being turned off. The sump gangway, west, is being driven.

The tunnel from fourth level, north dip, Buck Mountain vein, commenced in 1903, has been driven a total distance of 1,050 feet, cutting the seven foot and Skidmore veins, and the bottom, middle and top splits of the Mammoth vein on the north dip. It has also cut the top split of the Mammoth vein on the south dip, and is being continued to the bottom split of the Mammoth vein on the south dip.

Vulcan.—No. 1 slope is being continued another lift to the sixth level. The fifth level was reached and the gangways turned off during the year.

The tunnel to the Primrose vein, third level, was continued across the basin cutting the Primrose vein, top split of Mammoth vein, middle split of Mammoth vein, and bottom split of Mammoth vein, on the south dip, the total length of tunnel being 770 feet.

A diamond drill hole is being bored down vertically from this tunnel, in the center of the basin, to ascertain the location of the top split of the Mammoth vein with the object of tunneling for it from the fourth level.

Middle Lehigh.—Work of pumping out the old workings was commenced September 1, and the first level was reached December 10, the vertical height being 170 feet. Two Jeanesville duplex pumps, 30x14x36 inches, with two lines of 12-inch column pipe to the surface, have been installed at the first level; and the work of removing the water below the first level commenced. The work of cleaning up and retimbering gangways of the first level is being pushed rapidly.

No. 6 and No. 7 slopes at the eastern end of the property are being sunk.

A breaker has been built and is nearing completion.



## LEHIGH AND WILKES-BARRE COAL COMPANY

## Honey Brook Division

No. 4 Colliery.—Installed new compound wash pump at breaker, 12x18x14x18 inches.

One pump room in rock on fourth level 50x18x12 feet high. Installed three compound pumps. Combined capacity 7,500 gallons per minute.

Tunnel from Lykens in middle basin to Lykens in shaft basin, length 609 feet.

Tunnel from Mammoth Honey Brook basin to Buck Mountain on No. 1 basin anticlinal, length 440 feet.

Tunnel from Buck Mountain on No. 1 Basin anticlinal to Buck Mountain and Lykens Valley, north dip, No. 1 basin, length 94 feet.

Tunnel from Buck Mountain to Buck Mountain through fault on south dip, No. 1 basin, length 177 feet.

Tunnel from Lykens Valley to Buck Mountain, No. 2 inside slope, middle basin, length 111 feet.

Turnout tunnel from No. 11 Buck Mountain slope to basin of Gamma, length 96 feet.

Sunk No. 2 inside slope to first lift, equipped with 150 H. P. steam umbrella friction hoisting engine, a 10 inch bore hole 318 feet long acting as steam and exhaust way. New breaker in course of construction to replace the one destroyed by fire June 4.

No. 5 Colliery.—Rebuilt No. 8 north boiler room equipping same with two tubular boilers of 150 H. P. each. Boiler taken from No. 5 breaker.

Tunnel from Gamma to Wharton vein, second lift, No. 15 slope, length 72 feet.

Tunnel (continuation) from Gamma to Buck Mountain, length 47 feet.

Rock turnout and tunnel from Green Mountain slope to basin of Wharton, length 280 feet.

## MARY D. COAL COMPANY

Shaft sunk 317 feet during the year. Slope sunk on bottom split of Mammoth bed south dip 740 feet with airway and headings. Gangway started at 565 feet, driven west 170 feet with chutes and headings. Tunnel driven south 60 feet cutting middle split. Air hole driven to surface in middle split. Diamond drill bore hole from face of tunnel 121 feet cutting 7 foot vein No. 1 south dip Primrose vein driven 897 feet. Fan on this hole. Tunnel driven north 122 feet.

Slope plant 1 battery Sterling W. T. boiler, 150 H. P., 2 Erie City

tubular boilers 100 H. P. each, breaker plant 2 Erie City boilers 100 H. P. each. One battery Sterling W. T. boiler 300 H. P.; 1 battery Sterling W. T. boiler 300 H. P. in course of construction.

Breaker.—1,200 ton capacity 90x160 machinery being put in position; engines (2) 18x36 first motion hoisting engines, one at shaft and one at slope.

#### TRUMAN M. DODSON COAL COMPANY

Kaska William Colliery.—New shaft completed, depth 866 feet, 174 feet of which was sunk during the past year, cutting the bottom split of the Mammoth vein. The tunnel has been started 210 feet from the bottom of the shaft, 23 feet above where the 7-foot vein was cut. It is the intention to extend the tunnel north to Skidmore vein.

No. 1 Slope.—A tunnel 12x7x147 feet has been driven from the west bottom bench to the Skidmore vein. A tunnel 10x7x135 feet has been driven from the west 7 feet to the Top Bench. A tunnel 10x7x27 feet has been driven from the east 7 feet to the top bench of Mammoth vein. An air tunnel 155 feet long has been driven from the Holms vein to the Orchard vein.

In the North Dole basin shaft level a new slope has been sunk on the bottom split of Mammoth vein 300 feet on a dip of 45 degrees south. Gangways are now being driven east and west.

The old shaft has been re-timbered for a distance of 250 feet from the surface with 12x12 inch yellow pine.

#### Mine Foremen's Examinations

The examination of candidates for mine foremen and assistant mine foremen's certificates, held at Pottsville, April 27 and 28, resulted in the following named persons being granted certificates:

##### Mine Foremen

James T. Melley, Coal Dale; Henry Conway, Audenried.

##### Assistant Mine Foremen

William E. Jones, Coal Dale; John McGuire, Lansford; John P. Gallagher, Lansford; William G. McLaughlin, Lansford; John Greasing, Tamaqua.



# Fourteenth District

NORTHUMBERLAND COUNTY

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Mt. Carmel, Pa., March 1, 1905.

Hon. James E. Roderick, Chief of Department of Mines:

Sir: I have the honor to transmit herewith my second annual report as Inspector of Mines for the Fourteenth Anthracite District, for the year ending December 31, 1904.

Respectfully submitted,

BENJAMIN I. EVANS,  
Inspector.

## SUMMARY OF STATISTICS

Number of collieries, .....	23
Number of mines, .....	52
Number of mines in operation, .....	52
Number of tons of coal shipped to market, .....	4,271,163
Number of tons used at mines for steam and heat, .....	553,882
Number of tons sold to local trade and used by employes, .....	100,533
Number of tons of coal produced, .....	4,925,578
Number of persons employed inside of mines, .....	9,248
Number of persons employed outside, .....	5,097
Number of fatal accidents inside of mines, .....	39
Number of fatal accidents outside, .....	7
Number of non-fatal accidents inside of mines, .....	49
Number of non-fatal accidents outside, .....	5
Number of tons of coal produced per fatal accident inside, .....	126,297
Number of persons employed per fatal accident inside, .....	237
Number of persons employed per fatal accident outside, ..	728
Number of persons employed per non-fatal accident inside, .....	189
Number of persons employed per non-fatal accident outside, .....	1,019
Number of wives made widows by fatal accidents, .....	25
Number of children orphaned by fatal accidents, .....	69
Number of steam locomotives used outside, .....	25
Number of compressed air locomotives used inside, .....	2
Number of electric motors used inside, .....	4
Number of fans used for ventilation, .....	52
Number of gaseous mines in operation, .....	24
Number of non-gaseous mines in operation, .....	28



TABLE A

## PRODUCTION OF COAL

Names of Operators	Tons
Philadelphia and Reading Coal and Iron Company, . . . . .	2,153,252
Susquehanna Coal Company, . . . . .	1,010,540
Mineral Railroad and Mining Company, . . . . .	580,166
Excelsior Coal Company, . . . . .	245,914
Enterprise Coal Company, . . . . .	191,802
Greenough Red Ash Coal Company, . . . . .	176,364
Buck Ridge Coal Company, . . . . .	140,732
Shipman Coal Company, . . . . .	129,412
Seneca Coal Company, . . . . .	114,823
T. M. Richter Coal Company, . . . . .	88,963
Llewellyn Mining Company, . . . . .	60,169
White and White, . . . . .	33,076
Buck Ridge Coal Company, . . . . .	365

Total, . . . . .	4,925,578
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## Production by Counties

Northumberland, . . . . .	4,925,578
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TABLE B.—Fatal and non-fatal accidents inside and outside of mines; number of tons of coal produced per accident; number of persons employed; number employed per accident

Names of Operators	Fatal Accidents			Non-Fatal Accidents			Tons of coal produced per fatal accident inside	Tons of coal produced per non-fatal accident inside	Number of employees inside	Number of employees outside	Total number of employees	Number of employees inside per fatal accident	Number of employees outside per fatal accident	Number of employees inside per non-fatal accident	Number of employees outside per non-fatal accident
	Inside	Outside	Total	Inside	Outside	Total									
Philadelphia and Reading Coal and Iron Co., ..	18	5	23	24	3	27	119,025	89,719	3,579	1,401	5,480	149	389	149	634
Susquehanna Coal Co., .....	3	1	4	16	2	19	52,106	59,483	2,075	1,285	3,360	415	1,235	182	643
Mineral Railroad and Mining Co., .....	1	1	2	2	...	2	88,468	90,083	1,338	478	2,731	1,714	648	859	...
Enterprise Coal Co., .....	1	...	1	...	...	...	31,178	191,802	402	259	661	80	...	402	...
Seneca Coal Co., .....	3	...	3	2	...	2	38,271	57,411	244	172	406	78	...	117	...
T. M. Richter Coal Co., .....	3	...	3	2	...	2	...	88,913	128	170	278	80	...	128	...
Llewellyn Mining Co., .....	2	...	2	1	...	1	20,684	60,169	169	103	263	80	...	169	...
White and White, .....	1	...	1	1	...	1	...	33,676	152	43	195	28	...	152	...
Buck Ridge Coal Co., .....	1	...	1	...	...	...	141,067	...	28	38	66	28	...	...	...
Miscellaneous companies, .....	...	...	...	...	...	...	...	...	436	522	768	...	...	...	...
Totals and averages for district, .....	39	7	46	49	5	54	129,297	100,532	9,218	5,097	14,345	237	728	189	1,019





TABLE E.—Occupations of persons killed or fatally injured inside and outside of mines

	Inside										Outside										Grand total
	Mine foremen	Assistant mine foremen	Fire bosses and assistants	Miners	Miners' laborers	Drivers and runners	Door-boys and helpers	Pumpmen	Company men	All other employees	Total inside	Superintendents	Foremen	Blacksmiths and carpenters	Engineers and firemen	State pickers (boys)	State pickers (men)	Book-keepers and clerks	All other employees	Total outside	
January.....	1			27	3	3		2	3		39										39
February.....				1	1	2					4										4
March.....				1	1	1			1		4										4
April.....				1	1	1					3										3
May.....				1	1						2										2
June.....				1	1						2										2
July.....				1	1						2										2
August.....				1	1						2										2
September.....				1	1						2										2
October.....				1	1						2										2
November.....	1			1	1						3										3
December.....				1	1						2										2
Totals.....	1			27	3	3		2	3		39					1			6	7	46



TABLE F.—Occupations of persons injured inside and outside of mines

	Inside										Outside										Grand total
	Mine foremen	Assistant mine foremen	Pit bosses and assistants	Miners	Miners' laborers	Drivers and runners	Door-boys and helpers	Pumpmen	Company men	All other employees	Total inside	Superintendents	Foremen	Blacksmiths and carpenters	Engineers and firemen	State pickers (boys)	State pickers (men)	Book-keepers and clerks	All other employees	Total outside	
January.....			1	1	2	2			4		17								1	1	18
February.....											1										1
March.....									1		1										1
April.....											4										4
May.....					1	1					3								1	1	5
June.....				1	1						2										3
July.....				1	1						2										3
August.....				1	1	1					3		1								5
September.....				1	1						2										3
October.....				1	1	1					3										6
November.....			1	1		1				4	10										13
December.....				4							4										8
Totals.....			3	28	11	7			5	4	49		1						4	5	54

TABLE G.—Nationality of Persons Killed or Fatally Injured Inside and Outside of Mines

	American	English	Irish	German	Polish	Italian	Slavonian	Lithuanian	Austrian	Russian	Totals
January, .....	2			1	3			1		1	8
February, .....	1		1		1			1			4
March, .....	1			2						1	4
April, .....	1						1	1	1	1	5
May, .....	2		3	1	2						8
June, .....	1			1	1						4
July, .....	1										1
August, .....	3										3
September, .....		1			1						2
October, .....	1				1	1					3
November, .....										1	1
December, .....	2	1			1						4
Totals, .....	15	2	4	5	10	1	1	3	1	4	46

TABLE H.—Nationality of Persons Injured Inside and Outside of Mines

	American	English	Welsh	German	Polish	Hungarian	Italian	Slavonian	Lithuanian	Russian	Totals
January, .....	10			2		1	2	1		2	18
February, .....	1				1						2
March, .....	1										1
April, .....	1			1	1				1		4
May, .....		1			1						2
June, .....	1	1								1	3
July, .....	2		1	1	2						6
August, .....	2										2
September, .....	2			1			1				4
October, .....											1
November, .....	1						1			1	2
December, .....	9				1						10
Totals, .....	30	2	1	5	5	1	3	1	2	3	51



Susquehanna Coal Co. Pennsylvania No. 9 vein, N. dip, .....	Slope, ...	Gaseous, Fan, .....	12	3.5	3.5	100	6	Vulcan, ....	Steam, ..	1	24,070	24,000	23,000	654	214
Pennsylvania No. 10 vein, N. dip, .....	Slope, ...	Gaseous, Fan, .....	14	4.5	4.1	101	.75	Mullen, ....	Steam, ..	2	23,800	23,800	24,940		
Pennsylvania No. 10 vein, S. dip, .....	Slope, ...	Gaseous, Fan, .....	12	3.5	3.5	75	.4	Vulcan, ....	Steam, ..	2	24,000	24,000	26,760		
Pennsylvania shaft, Richards, N. dip, .....	Slope, ...	Gaseous, Fan, .....	18	6.3	5.11	50		Mullen, ....	Steam, ..	2	68,000	68,000	70,000		
Richards, N. dip, .....	Slope, ...	Gaseous, Fan, .....	18	7.2	5.2	82	1.8	Vulcan, ....	Steam, ..	5	118,000	118,000	122,040		
Richards, S. dip, .....	Slope, ...	Gaseous, Fan, .....	19.4	6.8	6.4	76	2	Vulcan, ....	Steam, ..	5	131,000	131,000	131,916	741	393
Richards No. 4, .....	Slope, ...	Non-gas, Fan, .....	16	4.5	4.5	49	.2	Mullen, ....	Steam, ..	4	18,400	18,000	19,000		
Richards No. 5, .....	Slope, ...	Non-gas, Fan, .....	10	4.5	2	11	1.6	Sturtevant, ..	Steam, ..	2	24,500	24,500	25,060		
Hickory Ridge No. 5, .....	Slope, ...	Non-gas, Fan, .....	12	4	3.10	150	.85	Vulcan, ....	Steam, ..	4	43,000	43,000	40,320	308	310
Hickory Ridge No. 6, .....	Slope, ...	Non-gas, Fan, .....	13	4.10	4.8	70	.25	Guibal, ....	Steam, ..	3	33,000	33,000	37,740		
Hickory Ridge No. 7, .....	Slope, ...	Non-gas, Fan, .....	12	4	3.10	82	.8	Vulcan, ....	Steam, ..	1	35,000	35,000	37,000	312	298
Hickory swamp, .....	Slope, ...	Non-gas, Fan, .....	13	5.5	4.5	34	.3	Mullen, ....	Steam, ..	1	65,000	65,000	65,500		
Mineral Railroad and Mining Co.,															
Camaron No. 7, .....	Slope, ...	Gaseous, Fan, .....	18	7	5.2	.....	1.4	Guibal, ....	Steam, ..	7	78,000	78,000	79,140		
Camaron No. 9, .....	Slope, ...	Gaseous, Fan, .....	14	3.11	4	.....	1.4	Guibal, ....	Steam, ..	6	49,500	49,500	50,580	1,027	223
Camaron No. 11, N. dip, .....	Slope, ...	Gaseous, Fan, .....	18	6	5.2	.....	2.5	Guibal, ....	Steam, ..	8	52,000	52,000	53,000		
Camaron No. 11, S. dip, .....	Slope, ...	Gaseous, Fan, .....	18	7	5	.....	2.6	Guibal, ....	Steam, ..	5	49,000	49,200	50,000		
Luke Fidler No. 1, .....	Shaft, ...	Gaseous, Fan, .....	18	7	5	.....	2.6	Guibal, ....	Steam, ..	5	76,000	76,000	77,170	692	220
Luke Fidler No. 2, .....	Shaft, ...	Gaseous, Fan, .....	18	7	5.2	.....	1.8	Guibal, ....	Steam, ..	4	72,000	76,000	74,000		
Excelsior Coal Co. Excelsior, Corbin, .....	Slope, ...	Non-gas, Fan, .....	.....	5	5	.....	1.5	Beadle, ....	Steam, ..	2	60,500	60,500	61,450	166	364
Enterprise Coal Co. Enterprise No. 1, .....	Slope, ...	Non-gas, Fan, .....	.....	5	5	.....	2.5	Beadle, ....	Steam, ..	2	21,000	21,500	22,000	169	216
Enterprise No. 2, .....	Slope, ...	Non-gas, Fan, .....	.....	5	5	.....	1.5	Beadle, ....	Steam, ..	2	20,000	20,000	20,380		
Greenough Red Ash Coal Co. Greenough No. 1, .....	Shaft, ...	Non-gas, Fan, .....	14	2.5	5	80	1.6	Guibal, ....	Steam, ..	2	88,700	88,700	89,200	402	221
Greenough No. 2, .....	Shaft, ...	Non-gas, Fan, .....	16	4.5	5	85	1.8	Guibal, ....	Steam, ..	3					
Shipman Coal Co. Colbert, .....	Shaft, ...	Non-gas, Fan, .....	16	5	4	63	1.4	Guibal, ....	Steam, ..	3	36,840	36,840	37,840	172	214
Seneca Coal Co. Sioux No. 1, .....	Slope, ...	Non-gas, Fan, .....	16	6	5	50	1.6	Guibal, ....	Steam, ..	2	90,146	90,146	91,350	406	222
Sioux No. 3, .....	Slope, ...	Non-gas, Fan, .....	16	5	5	80	1.3	Guibal, ....	Steam, ..	3					
T. M. Richter Coal Co. Mt. Carmel, .....	Slope, ...	Non-gas, Fan, .....	16	4.6	5	72	1.7	Guibal, ....	Steam, ..	4	66,720	66,720	68,740	278	240
Llewellyn Mining Co. Royal Oak, .....	Slope, ...	Non-gas, Fan, .....	18	7	6	55	1.4	Guibal, ....	Steam, ..	2	34,500	34,500	32,100	160	216
White and White Columbus No. 2, .....	Slope, ...	Non-gas, Fan, .....	12	3.8	4.2	60	.9	Guibal, ....	Steam, ..	3	34,960	34,960	35,340	152	230





Shirman Keal Co. Celbert, .....	Northumberland,	John B. Corliss, ..	Detroit, Mich.,.....	Edward Corliss, ..	Shamokin, .....	Pennsylvania
Buck Ridge Coal Co. Buck Ridge, .....	Northumberland,	George W. Scott, ..	Philipsburg,.....	D. H. McGee, ....	Minersville,.....	P. and R.
Llewellyn Mining Co. Royal Oak, .....	Northumberland,	.....	.....	William Llewellyn,	Shamokin, .....	P. and R.
White and White Columbus No. 2, .....	Northumberland,	.....	.....	Elijah White, ....	Mt. Carmel, .....	Lehigh Valley

TABLE 2.—Number of tons of coal mined, number of days worked, number of persons employed, number killed and injured, quantity of powder and dynamite used, etc.

Names of Operators and Companies	County	Number of tons of coal shipped to market	Number of tons used at collieries for steam and heat	Number of tons sold to local trade and used by employes	Total production of coal in tons	Number of days worked (totals are averages, not including washeries)	Number of employees	Number of fatal accidents	Number of non-fatal accidents	Number of kegs of powder used	Number of pounds of dynamite used	Number of horses and mules
Philadelphia and Reading Coal and Iron Co.												
Alaska.....		283,260	19,586	269	313,115	261	862	3	.....	9,635	16,820	85
Reliance.....		176,311	23,018	13,462	212,831	257	549	2	.....	5,989	24,350	60
Locust Gap.....		462,193	42,294	2,296	507,783	249	{ 1,641	6	.....	4,116	8,387	21
Henry Clay.....							{ 385	5	.....	4,740	72,638	97
Big Mountain.....		156,118	42,680	13,499	212,397	262	{ 220	2	.....	2,974	2,124	75
Bear Valley.....		219,541	19,740	475	239,756	261	542	.....	.....	2,189	5,988	.....
Burnside.....		320,341	44,953	7,069	372,363	265	{ 775	3	.....	6,717	23,075	65
Sterling.....							{ 282	.....	.....	7,637	20,389	127
North Franklin.....		263,977	25,584	5,896	295,457	243	{ 634	2	.....	3,740	8,246	.....
Totals.....		1,892,741	217,855	42,656	2,153,252	257	5,489	23	27	52,759	212,192	620
Susquehanna Coal Co.												
Pennsylvania.....		273,385	38,840	6,194	318,419	245	1,032	3	9	12,984	31,650	104
Richards.....		285,426	54,420	108	339,954	241	1,115	2	4	9,739	39,146	92
Hickory Ridge.....		164,444	58,480	2,824	225,748	240	674	.....	5	6,624	7,800	55
Hickory Swamp.....		104,695	20,770	924	126,389	214	508	1	1	1,970	3,805	48
Totals.....		827,950	172,540	10,460	1,010,540	235	3,360	6	19	30,317	82,501	299
Mineral Railroad and Mining Co.												
Cameron.....		273,050	34,732	17,310	325,092	237	1,415	2	2	9,278	28,782	142
Luke Fidler.....		213,528	29,742	11,894	255,074	222	952	.....	.....	7,368	22,181	81
Totals.....		486,578	64,474	29,114	580,166	250	2,367	2	2	16,644	50,963	223

Excelsior Coal Co.	Northumberland,	122,972	7,100	408	130,480	246	265	.....	3,593	2,050	41	
Excelsior,	Northumberland,	102,786	12,648	.....	116,434	251	246	4	4,083	1,150	21	
Corbin,	.....	225,758	19,748	408	245,914	249	511	4	7,676	3,200	62	
Totals,	.....	165,872	25,610	320	191,802	197	661	5	7,115	6,901	65	
Enterprise Coal Co.	Northumberland,	170,521	4,800	1,043	176,364	265	393	.....	4,425	8,500	30	
Enterprise,	.....	118,727	7,574	3,111	123,412	262	265	.....	3,555	6,000	31	
Greenough Red Ash Coal Co.	Northumberland,	104,509	9,633	661	114,823	292	406	3	2	3,039	13,769	40
Greenough,	.....	68,366	19,538	1,060	88,963	155	278	.....	1	295	17,245	24
Colbert,	Northumberland,	50,316	5,475	4,378	60,169	246	263	2	1	1,640	1,200	20
Shipman Coal Co.	Northumberland,	22,921	2,560	7,795	33,076	129	195	.....	1	1,700	2,600	12
Seneca Coal Co.	.....	.....	300	65	365	300	26	1	.....	81	633	.....
T. M. Richter Coal Co.	Northumberland,	136,904	3,765	63	140,732	251	40	.....	.....	37	.....	4
Mt. Carmel,	.....	136,904	4,065	128	141,097	300	66	1	.....	118	733	4
Llewellyn Mining Co.	.....	4,271,163	553,882	100,533	4,925,578	227	14,345	46	54	129,223	405,704	1,430
Royal Oak,	.....											
White and White	.....											
Columbus No. 2,	.....											
Buck Ridge Coal Co.	.....											
Buck Ridge No. 2	.....											
Buck Ridge washery,	.....											
Totals,	.....											
Grand totals,	.....											

TABLE 2.—Recapitulation

Philadelphia and Reading Coal and Iron Co., .....	1,892,741	217,855	42,656	2,153,272	257	5,480	23	27	52,759	212,192	620
Susquehanna Coal Co., .....	827,950	175,540	10,050	1,013,540	235	3,360	6	19	30,317	52,701	239
Mineral Railroad and Mining Co., .....	486,578	64,474	29,114	580,166	230	2,367	2	2	16,644	50,963	223
Excelsior Coal Co., .....	225,758	19,748	408	245,914	243	511	4	.....	7,676	3,200	62
Miscellaneous companies, .....	838,136	79,265	18,305	935,706	220	2,627	11	6	21,827	56,848	226
Totals, .....	4,271,163	553,882	100,533	4,925,578	227	14,345	46	54	129,223	405,704	1,430

TABLE 2.—Continued

Names of Operators	County	Number of Boilers			Locomotives			Total horse power	Number of steam engines of all classes	Total horse power	Number of pumps delivering water to surface	Capacity in gallons per minute	Quantity delivered to surface per minute—gallons	Number of electric dynamos	Number of air compressors		
		Cylindrical	Horse power	Tubular	Horse power	Total horse power	Steam									Air	Electric
Philadelphia and Reading Coal and Iron Co.,		50	1,626	102	13,260	14,886	7	2	1	154	21,929	44	36,411	28,518	1	5	
Susquehanna Coal Co.,		10	390	48	6,140	6,530	7	.....	.....	57	6,859	19	14,425	4,570	2	2	
Mineral Railroad and Mining Co.,		2	40	33	4,315	4,355	4	.....	.....	35	6,186	11	4,738	4,738	1	3	
Excelsior Coal Co.,		38	1,180	.....	.....	1,180	2	.....	.....	17	6,537	3	1,668	450	2	1	
Enterprise Coal Co.,		.....	.....	16	2,000	2,000	.....	.....	.....	17	1,314	4	3,274	2,456	2	1	
Greenough Red Ash Coal Co.,		.....	.....	.....	.....	.....	.....	.....	.....	4	150	1	250	250	.....	.....	
Back Ridge Coal Co.,		.....	.....	3	360	360	.....	.....	.....	9	375	.....	1,370	700	.....	.....	
Shipman Coal Co.,		.....	.....	3	450	450	.....	.....	.....	9	695	4	1,370	700	.....	.....	
Seneca Coal Co.,		.....	.....	6	645	645	.....	.....	.....	22	1,129	4	1,723	450	.....	.....	
T. M. Richter Coal Co.,		29	720	6	1,050	1,050	3	.....	.....	29	2,082	4	5,562	2,190	.....	.....	
Jewell Mining Co.,		.....	.....	2	300	300	1	.....	.....	6	340	2	150	50	.....	.....	
White and White,		4	109	1	60	169	.....	.....	.....	10	180	.....	.....	.....	.....	.....	
Back Ridge Coal Co.,		.....	.....	2	150	150	.....	.....	.....	1	60	1	4	3	.....	.....	
Totals,		124	4,056	227	29,270	33,326	25	2	4	570	41,836	95	68,975	44,797	4	11	

Northumberland.





TABLE 3. —Continued

Names of Operators and Collieries	County	Inside										Outside							Grand totals inside and outside			
		Mine foremen	Assistant mine foremen	Fire bosses and assistants	Miners	Miners' laborers	Drivers and runners	Door boys and helpers	Pumpmen	Company men	All other employees	Total inside	Superintendents	Foremen	Blacksmiths and carpenters	Engineers and firemen	State pickers (boys)	State pickers (men)		Book-keepers and clerks	All other employees	Total outside
Mineral Railroad and Mining Co.																						
Cameron, .....	Northumberland,	1	6	15	475	169	80	18	8	.....	264	1,027	1	2	28	34	166	.....	6	151	388	1,415
Lake Ridge, .....	Northumberland,	1	2	8	300	117	44	9	1	.....	180	682	1	1	9	29	95	6	6	113	260	1,452
Totals, .....		2	8	23	775	286	124	27	9	.....	444	1,719	2	3	37	63	261	6	12	264	648	2,367
Excelsior Coal Co.																						
Excelsior, .....	Northumberland,	1	2	....	70	56	12	1	1	16	7	166	1	1	8	12	24	11	2	40	59	265
Corbin, .....	Northumberland,	1	2	....	88	40	11	.....	.....	17	10	169	1	1	4	11	16	4	.....	40	77	246
Totals, .....		2	4	....	158	96	23	1	1	33	17	335	2	2	12	23	40	15	2	80	176	511
Enterprise Coal Co.																						
Enterprise, .....	Northumberland,	1	1	....	245	29	59	6	3	32	26	402	1	1	8	30	44	7	2	166	259	661
Greenough Red Ash Coal Co.																						
Greenough, .....	Northumberland,	1	....	2	123	71	14	2	2	17	28	260	1	1	8	10	79	.....	2	32	133	393
Buck Ridge Coal Co.																						
Buck Ridge, .....	Northumberland,	1	....	1	6	8	.....	.....	1	4	.....	19	1	1	2	6	3	.....	.....	4	7	26
Buck Ridge washery, .....	Northumberland,	1	....	4	3	2	.....	.....	.....	.....	.....	9	1	1	.....	.....	.....	.....	1	17	31	40
Totals, .....		1	....	1	10	9	2	.....	1	4	.....	28	2	1	2	8	3	.....	1	21	38	66

Shipman Coal Co.	Northumberland,	1	....	3	87	27	10	1	2	45	.....	176	1	1	8	12	84	27	2	54	189	365
Colbert, .....	Seneca Coal Co.	1	2	3	126	50	12	4	4	.....	32	234	....	1	10	20	36	.....	2	103	172	406
Sioux, .....	T. M. Righter Coal Co.	1	....	1	20	19	10	1	6	.....	70	128	....	1	10	19	27	4	2	87	150	278
Mt. Carmel, .....	Llewellyn Mining Co.	1	1	2	87	19	14	4	2	30	.....	160	1	1	5	6	45	.....	2	43	103	283
Royal Oak, .....	White and White	1	....	2	87	18	10	2	.....	2	30	152	1	1	2	4	18	.....	1	16	43	195
Columbus No. 2, .....	Grand totals, .....	28	30	109	4,221	1,512	670	167	85	1,025	1,391	9,248	19	24	195	511	1,358	306	60	2,624	5,097	14,345

TABLE 3.—Recapitulation

Philadelphia and Reading (Coal and Iron Co., .....	12	4	43	1,636	519	259	87	30	245	744	3,579	.....	7	7	197	447	174	20	999	1,901	5,489
Susquehanna Coal Co., .....	4	10	29	877	348	133	32	25	617	.....	2,075	8	4	36	119	274	73	12	759	1,285	3,300
Mineral Railroad and Mining Co., .....	2	8	23	775	307	124	27	9	.....	444	1,719	2	3	37	63	261	6	12	264	648	2,367
Excelsior Coal Co., .....	2	4	...	158	96	23	1	1	33	17	335	2	2	12	23	40	15	2	80	176	511
Miscellaneous companies, .....	8	4	14	785	242	131	20	20	130	286	1,540	7	8	53	99	336	38	14	522	1,087	2,627
Totals, .....	28	30	109	4,221	1,512	670	167	85	1,025	1,391	9,248	19	24	195	511	1,358	306	60	2,624	5,097	14,345

TABLE 3.--Continued

Names of Operators	County	Average Number of Days Worked in Breaker												Total
		January	February	March	April	May	June	July	August	September	October	November	December	
Philadelphia and Reading Coal and Iron Co.	Northumberland.	22	20	17	24	23	25	21	18	17	24	23	23	257
Susquehanna Coal Co.		25	21	15	21	21	24	19	20	16	21	19	18	235
Mine Run Coal and Mining Co.		21	19	13	22	22	22	21	11	17	21	21	20	230
Excelsior Coal Co.		21	21	17	22	22	24	20	19	16	24	23	23	249
Enterprise Coal Co.		23	24	17	22	19	25	21	18	16	22	23	23	249
Greenough Red Ash Coal Co.		23	24	20	22	22	25	22	23	18	24	23	23	191
Shipman Coal Co.		22	23	18	22	24	26	21	23	18	24	23	23	262
Seneca Coal Co.		22	23	18	22	24	26	21	17	16	23	21	20	202
T. M. Righter Coal Co.		24	21	17	16	25	18	20	8	7	23	22	25	155
Llewellyn Mining Co.		24	21	19	15	21	23	20	18	15	26	21	23	246
White and White.		24	18	13	3	2	4	4	5	5	16	16	19	129
Buck Ridge Coal Co.		25	24	26	25	25	25	25	25	25	25	25	25	300
General averages.		18	18	17	19	21	22	19	17	16	20	20	20	227

TABLE 4.—Fatal accidents inside and outside of mines

Date of accident	Name of Person	Nationality	Occupation	Age	Married or single	Number of widows	Number of orphans	Name of Mine	County	Nature and Cause of Accident in Brief
Jan. 6	Amilias Francis, ...	American, ..	Car loader, ..	21	S.	...	...	Richards, .....	Northumberland,	Run over by railroad cars under the breaker. Outside.
9	John Butner, .....	Polish, .....	Car loader, ..	19	S.	...	...	Alaska, .....	Northumberland,	Squeezed between the cars and platform under breaker. Outside.
15	Frank Pasker, .....	American, ..	Miner, .....	33	M.	1	2	Corbin, .....	Northumberland,	Killed by explosion of gas.
15	Dominick Dublo-Lithuanian, ..	Lithuanian, ..	Miner, .....	42	M.	1	4	Corbin, .....	Northumberland,	Killed by explosion of gas.
15	Josko Gingolefski, ..	Polish, .....	Miner, .....	23	M.	1	1	Corbin, .....	Northumberland,	Killed by explosion of gas.
18	Peter Miller, .....	German, .....	Miner, .....	69	M.	1	3	Alaska, .....	Northumberland,	Killed by fall of slate.
23	Adam Smith, .....	Polish, .....	Miner, .....	49	M.	1	...	Locust Spring, ..	Northumberland,	Killed by fall of coal.
25	Adam Grobowski, ..	Russian, .....	Miner, .....	42	M.	1	2	Cameron, .....	Northumberland,	Killed. Jumped off a car and fell under.
20	Joseph Madro, .....	Polish, .....	Miner, .....	33	S.	...	...	Henry Clay, .....	Northumberland,	Severely injured by fall of coal. Died February 1.
Feb. 17	Victor Polhanis, ...	Lithuanian, ..	Miner, .....	35	M.	1	4	Pennsylvania, ..	Northumberland,	Killed by fall of slate.
18	Robert Fisher, .....	American, ..	Tending machinery.	19	S.	...	...	North Franklin, ..	Northumberland,	Killed by falling into machinery. Outside.
18	Edward McGee, .....	Irish, .....	Miner, .....	55	M.	1	...	Locust Spring, ..	Northumberland,	Killed by being thrown under the cars. Outside.
March 5	Frank Waldron, ...	American, ..	Gate-tender, ..	22	S.	...	...	Henry Clay, .....	Northumberland,	Killed. Fell into the shaft.
7	Wm. Mintzer, .....	German, .....	Miner, .....	42	M.	1	2	Locust Spring, ..	Northumberland,	Killed by fall of coal.
17	James Frohl, .....	German, .....	Laborer, .....	28	S.	...	...	Sloux, .....	Northumberland,	Killed by being bumped between cars.
23	Minis Martin, .....	American, ..	Driver, .....	28	S.	...	...	Enterprise, .....	Northumberland,	Killed by piece of slate falling on him.
29	John Farley, .....	Russian, .....	Miner, .....	53	M.	1	1	Hickory Swamp, ..	Northumberland,	Killed. Fell into machinery. Outside.
April 7	Wm. K. Karnis, ...	Austrian, .....	Slate picker, ..	36	S.	...	...	Locust Spring, ..	Northumberland,	Injured by rush of coal. Died April 14.
14	John K. Karnis, ...	Lithuanian, ..	Miner, .....	27	S.	...	...	Belance, .....	Northumberland,	Killed. A spark from his lamp ignited a kigg of powder, causing an explosion.
18	Roman Markle, ...	Austrian, .....	Miner, .....	26	S.	...	...	Locust Gap, .....	Northumberland,	Killed by fall of slate.
18	Wally Goshinski, ...	Russian, .....	Miner, .....	29	M.	1	3	Enterprise, .....	Northumberland,	Killed by fall of slate.
25	John Shinschok, ...	Slavonian, ..	Leader, .....	20	S.	...	...	Richards, .....	Northumberland,	Killed by fall of slate.
May 3	Wala Zaluski, ...	Polish, .....	Miner, .....	32	M.	1	2	Corbin, .....	Northumberland,	Smothered by mine fire.
5	William Melechebski, ..	Polish, .....	Laborer, .....	22	S.	...	...	Locust Gap, .....	Northumberland,	Smothered by mine fire.
5	Mike Shannon, .....	Irish, .....	Miner, .....	39	M.	1	4	Locust Gap, .....	Northumberland,	Smothered by mine fire.
5	John J. Boylan, .....	Irish, .....	Miner, .....	31	S.	...	...	Locust Gap, .....	Northumberland,	Smothered by mine fire.
5	John Debo, .....	American, ..	Pumpman, ..	35	M.	...	2	Locust Gap, .....	Northumberland,	Smothered by mine fire.

TABLE 4.—Continued

Date of accident	Name of person	Nationality	Occupation	Age	Married or single	Number of widows	Number of orphans	Name of Mine	County	Nature and Cause of Accident in Brief
May	11 H. S. Miller, .....	American, ..	Car loader, ..	22	S.	.....	.....	Cameron, .....	Northumberland,	Killed by being bumped by railroad cars.
June	19 Enoch Chapletski, ..	Prussian, ....	Miner, .....	45	M.	1	10	Enterprise, .....	Northumberland,	Killed by fall of slate.
	1 Joseph Macajacke, ..	Polish, .....	Miner, .....	48	M.	1	.....	North Franklin, ..	Northumberland,	Killed by fall of slate.
	18 Joseph Miller, .....	German, .....	Spragget, ..	18	S.	.....	.....	Reliance, .....	Northumberland,	Killed by being run over by mine car.
July	20 Simon Derr, .....	American, ..	Miner, .....	54	M.	1	1	Burnside, .....	Northumberland,	Outside.
	20 Martin Purwell, ....	American, ..	Miner, .....	25	M.	1	5	Burnside, .....	Northumberland,	Killed by fall of top slate.
	23 August Effinger, ....	American, ..	Miner, .....	45	M.	1	.....	Burnside, .....	Northumberland,	Killed by explosion of gas.
	23 John Eader, .....	American, ..	Miner, .....	25	S.	.....	.....	Buck Ridge, .....	Northumberland,	Bumped by explosion of gas. Died August 26.
Sept.	12 Robert Taylor, .....	English, .....	Repairman, ..	49	M.	1	10	Alaska, .....	Northumberland,	Killed by being run over by mine cars.
	22 John Yascavage, ....	Polish, .....	Miner, .....	32	M.	1	.....	Pennsylvania, .....	Northumberland,	Killed by fall of slate.
Oct.	6 Danl. Kennedy, ....	American, ..	Miner, .....	41	M.	1	3	Sloux, .....	Northumberland,	Killed by fall of coal.
	11 Joseph Matcort, ....	Italian, .....	Miner, .....	40	S.	.....	.....	Locust Spring, ....	Northumberland,	Killed by premature blast.
Nov.	14 Stany Zatkewski, ....	Polish, .....	Pumpman, ....	18	S.	.....	.....	Enterprise, .....	Northumberland,	Smothered by gas from mine fire.
	7 Mike Zatkewski, .....	Russian, ....	Laborer, .....	30	M.	1	1	Enterprise, .....	Northumberland,	Killed by falling into shaft.
	8 Harry Middleworth, ..	English, .....	Driver, .....	23	S.	.....	.....	Royal Oak, .....	Northumberland,	Killed by being kicked by a mule.
	8 Isaac Hall, .....	American, ..	Asst. foreman, ..	36	M.	1	5	Pennsylvania, ....	Northumberland,	Killed by explosion of gas.
19	Oswell Noll, .....	American, ..	Driver, .....	20	S.	.....	.....	Royal Oak, .....	Northumberland,	Killed by being squeezed against a car by a mule.
	30 Anthony Malanofski, ..	Polish, .....	Miner, .....	30	M.	1	2	Sloux, .....	Northumberland,	Killed by rush of coal.



TABLE 5.—Non-fatal accidents inside and outside of mines

Date of accident	Name of Person	Nationality	Occupation	Age	Married or single	Name of Mine	County	Nature and Cause of Accident in Brief
Jan. 1	Phillip Lant, .....	Italian, .....	Starter, .....	32	S.	Richards, .....	Northumberland,	Leg burned. Two sticks of Dualin caught fire in his boot.
4	Anthony Tresger, .....	American, .....	Fire boss, ...	56	M.	Pennsylvania, ...	Northumberland,	Slipped and cut the hips by fall of slate.
4	Andrew Nulger, .....	Hungarian, ...	Mason, .....	45	M.	Locust Spring, ...	Northumberland,	Hip fractured. Bumped between mine cars. Outside.
8	John T. Williams, .....	American, .....	Miner, .....	42	M.	Burnside, .....	Northumberland,	Burned by explosion of gas in chute.
8	William Coalton, .....	American, .....	Miner, .....	35	M.	Burnside, .....	Northumberland,	Burned by explosion of gas in breast.
9	Henry Osman, .....	German, .....	Miner, .....	28	M.	North Franklin, ..	Northumberland,	Leg broken. He was in front of a car working on slope when the engineer began to hoist the car and his leg was caught against a sill.
12	George Klous, .....	American, .....	Laborer, .....	23	S.	Locust Gap, .....	Northumberland,	Caught between car and high side of gangway.
12	John Barron, .....	Slavonian, .....	Driver, .....	25	S.	Richards, .....	Northumberland,	Leg broken. A piece of coal fell on it.
12	Raldi Angel, .....	Italian, .....	Laborer, .....	22	S.	Cameron, .....	Northumberland,	Foot injured. He was bumped between cars.
13	Fred Felker, .....	German, .....	Driver, .....	18	S.	Locust Spring, ...	Northumberland,	Leg broken. His foot slipped while lifting gangway collar and the collar fell on his leg.
13	William Cain, .....	American, .....	Laborer, .....	40	S.	Burnside, .....	Northumberland,	Foot crushed by piece of slate falling on it.
13	William Boche, .....	American, .....	Miner, .....	24	S.	Locust Gap, .....	Northumberland,	Foot injured. While breaking a lump of coal the pick glanced and went into his foot.
21	Lewis Hentinger, .....	American, .....	Miner, .....	22	S.	Burnside, .....	Northumberland,	Burned by gas. While brushing gas out of a chute the gas came in contact with a naked lamp on the gangway, which ignited it.
23	Henry Coyne, .....	American, .....	Miner, .....	25	M.	Locust Spring, ...	Northumberland,	Squeezed by being caught between cars and platform.
23	Jake Betz, .....	American, .....	Miner, .....	30	M.	Locust Spring, ...	Northumberland,	Squeezed by falling in front of car. Leg broken by a piece of coal falling on it.
27	Andrew Zouslitskie, .....	Russian, .....	Loader, .....	20	S.	Hickory Ridge, ..	Northumberland,	Leg broken by fall of slate.
27	Anthony Hentinger, .....	American, .....	Driver, .....	23	S.	Hickory Ridge, ..	Northumberland,	
28	Andrew Bonatuskie, .....	Russian, .....	Loader, .....	23	S.	Hickory Ridge, ..	Northumberland,	
17	Alex Doer, .....	Polish, .....	Miner, .....	35	S.	Enterprise, .....	Northumberland,	

TABLE 5.—Continued

Date of accident	Name of Person	Nationality	Occupation	Age	Married or single	Name of Mine	County	Nature and Cause of Accident in Brief
Feb. 25	Henry Welker, .....	American, .....	Laborer, ....	35	M.	Hickory Swamp, ..	Northumberland,	Leg broken. Slipped on timber pile and his leg was caught. Outside.
March 14	James O'Leary, .....	American, .....	Laborer, ....	27	S.	Henry Clay, .....	Northumberland,	Compound fracture of thigh. Loaded car pulled a gangway, fell out and it remained in the car. While dumping the material the collar fell on him.
April 1	Frank Badman, .....	German, .....	Laborer, ....	18	S.	North Franklin, ..	Northumberland,	Leg broken by fall of coal.
14	George Fushinski, .....	Lithuanian, .....	Miner, .....	48	M.	Itellence, .....	Northumberland,	Foot crushed. While barring down a piece of slate it fell on his foot.
19	William Lynch, .....	American, .....	Miner, .....	32	M.	Locust Spring, ....	Northumberland,	Leg broken by fall of coal.
23	Joseph Felaskie, .....	Polish, .....	Driver, .....	19	S.	Richards, .....	Northumberland,	Leg broken. Bumped between cars.
May 12	Charles Barnes, .....	Lithuanian, .....	Loco. helper, ..	19	S.	Richards, .....	Northumberland,	Both legs broken. Run over by dirt dumpers.
12	John Weber, .....	English, .....	Miner, .....	65	M.	Royal Oak, .....	Northumberland,	Leg broken by fall of coal.
17	Joseph Lobuski, .....	Polish, .....	Miner, .....	35	M.	North Franklin, ....	Northumberland,	Leg broken by fall of slate.
18	Albert Williams, .....	English, .....	Miner, .....	42	M.	Pennsylvania, ....	Northumberland,	Injured internally by piece of slate falling on him.
21	James McGee, .....	American, .....	Laborer, ....	19	S.	Locust Spring, ....	Northumberland,	Leg broken. Bumped between mine cars.
20	John Morgans, .....	Welsh, .....	Miner, .....	30	M.	Hickory Ridge, ....	Northumberland,	Outside. Bumped about the hips by fall of slate.
20	Anthony Shuda, .....	Polish, .....	Miner, .....	40	M.	Itellence, .....	Northumberland,	Inside. Bumped. He was carried down chute with a rush of coal.
21	John Stancavitch, .....	Polish, .....	Miner, .....	27	S.	North Franklin, ..	Northumberland,	Back injured. While putting a collar on the legs in gangway, a piece of slate fell on him.
21	John Havil cher, .....	American, .....	Miner, .....	40	M.	Burnside, .....	Northumberland,	Burned by explosion of gas. They went with a naked light into the breast next to theirs in which there was some gas, and the light ignited the gas.
21	Edward Kersetter, .....	American, .....	Miner, .....	22	M.	Burnside, .....	Northumberland,	
26	William Whitehouse, .....	German, .....	Miner, .....	48	M.	Locust Gap, .....	Northumberland,	Leg broken by piece of timber falling on it.
Aug. 9	John Ford, .....	American, .....	Driver, .....	19	S.	Pennsylvania, ....	Northumberland,	Arm broken. Caught between frame of door and car.

20	Fred. Ludnow, .....	American, .....	Miner, .....	30	S.	Burnside, .....	Northumberland,	Burned by explosion of gas. He went back to his breast, after firing a shot, with naked light on his head.
13	James Judge, .....	American, .....	Miner, .....	35	S.	Locust Spring, ....	Northumberland,	Arm broken by lump of coal from a shot.
19	John Eberle, .....	American, .....	Asst. fore- man, .....	45	M.	Locust Spring, ....	Northumberland,	Leg broken. He was caught in scraper line. Outside.
20	Peter Miller, .....	German, .....	Miner, .....	37	S.	Cameron, .....	Northumberland,	Leg broken by a piece of slate falling on it.
11	John Valentine, .....	Italian, .....	Miner, .....	41	S.	Locust Spring, ...	Northumberland,	Injured about the head. He was throwing tamping into a hole for his partner, when the cartridge exploded.
14	Stany Shiptack, .....	Russian, .....	Miner, .....	41	M.	Hickory Ridge, ...	Northumberland,	Back severely injured. While barring a piece of slate in the heading a piece of slate fell on him.
17	Wm. Meredith, .....	American, .....	Driver, .....	21	S.	Mt. Carmel, .....	Northumberland,	Leg fractured and foot lacerated. While trying to hold a car on grade with his back his foot caught in a sill.
2	Geo. Sullivan, .....	American, .....	Miner, .....	27	M.	Burnside, .....	Northumberland,	Leg broken. While loading car on platform a piece of rock rolled down the chute and caught his leg.
3	John Bellman, .....	American, .....	Miner, .....	32	M.	Sloux, .....	Northumberland,	Stomach bruised. While dressing off a shot at face of breast a piece of slate fell on him.
8	John Lafferty, .....	American, .....	Fire boss, ...	56	M.	Pennsylvania, ....	Northumberland,	While piloting the surveyors around the mine, Lafferty took them into an old abandoned heading where they encountered a body of gas. It was ignited by the lamp on Lafferty's head, and he and the surveyors were burned by the explosion.
8	Andrew Wary, .....	American, .....	Surveyor, ...	28	S.	Pennsylvania, ....	Northumberland,	
8	Thomas Gilland, .....	American, .....	Surveyor, ...	23	M.	Pennsylvania, ....	Northumberland,	
8	Charles Hefner, .....	American, .....	Surveyor, ...	41	M.	Pennsylvania, ....	Northumberland,	
8	Ralph Fisher, .....	American, .....	Surveyor, ...	21	S.	Pennsylvania, ....	Northumberland,	
9	Wm. Klebenstine, .....	American, .....	Miner, .....	68	M.	Sloux, .....	Northumberland,	Leg broken by fall of slate in heading.
13	John Foley, .....	Polish, .....	Laborer, .....	24	S.	Pennsylvania, ....	Northumberland,	Leg broken by fall of slate in breast.
29	Hugh Conroy, .....	American, .....	Miner, .....	40	M.	Columbus No. 2, ...	Northumberland,	Leg broken by fall of slate in breast.

### Explosion of Gas at Corbin Colliery of the Excelsior Coal Company

January 15, Frank Pasker, Dominick Bublovitski and Joseph Gingolesski, miners, were working together robbing a gangway at the Corbin Colliery. They had been cautioned that morning by the fire boss, that there was gas in the gangway inside of where they were robbing, and they were given safety lamps to work with. A danger signal was also erected between them and the gas, but for some reason, one of the men went beyond the danger signal, and it is supposed he struck a match and ignited the body of gas, with the result that the three men were burned to death.

### Fire at Locust Gap Colliery of the Philadelphia and Reading Coal and Iron Company

On the morning of May 5th, I was summoned to Locust Gap colliery the scene of a mine fire, and upon my arrival at the colliery, about 6.20 A. M., I found both slopes and fan-way on fire, the fan having been burned down. Five men were entombed inside. In company with Mr. W. J. Richards, manager, I proceeded to the west end slope, which connects with the inside workings of the Locust Gap colliery. When we arrived near the slope we met Messrs. Tasker, Brennan, Superintendent, and McLaughlin, foreman, who had just ascended the slope. We accompanied them back to the office, and examined the colliery map.

I then started again in company with Mr. McLaughlin to the west end slope and descended 1,700 feet, then back east to the bottom of Locust Gap slope on the second lift. I found a fire there of immense magnitude. The third level of Locust Gap is not connected with the main or hoisting slope, the coal being hoisted from this lift on a tender slope to the 2d lift and transferred to the main or hoisting slope.

After finding it impossible to cross east of the slope, we made an effort to go down to the 3d lift through the upcast airway west of the slope, but when we reached the top of the gangway, we found that the water had raised to that point. Our intention was to go along the gangway east until we reached the other upcast airway on the east side of the slope and go up this airway to 2d lift to where we supposed the men were. When we found it impossible to reach the men through this channel, brattices were put up at once to prevent the fire from getting any air. I then went up to the first level and to the bottom of the slope and found conditions the same as below as far as the fire was concerned. They immediately made preparations to brattice here also. The next move was to slush the slopes and fan way. Also holes were sunk from the surface and



silted to prevent the fire from spreading east and west. The work was done with great rapidity.

A futile effort was also made to get down to the second level through an old traveling way on the east side. They got down about 100 feet below the first lift, when they found that the passage was blocked with immense pieces of top rock. These were old workings that had been robbed years ago, and to blast these rocks, meant the losing of more lives.

The five men that were entombed lived in Locust Gap. Their names were Michael Boylan, John J. Boylan, Michael Shannon, John Debo and William Melechefski, the two first named being brothers.

On May 8, I again went to Locust Gap in company with the Chief of the Department of Mines, where we met Messrs. Fahey and Dougherty, president and organizer of the Ninth district of the United Mine Workers. We proceeded to a room in the McClure Hotel and I pointed out on the colliery map to those present what had been done to rescue the imprisoned men. Every one present approved of the methods adopted.

On the 13th of May I again visited the mine, and in company with Charles Gallagher, inside foreman at Pott's Colliery, went down the old traveling way on the east side. As we got near the first lift I noticed that the air had been reversed, and fearing that smoke or damp might issue through the hole we decided to return. There were men timbering this manway at the time, and I suggested to the officials that they stop and take the men away, which was done.

The fire originated in the pumpway, while a party of men were timbering it. They were given lanterns to work with, so I am told, but instead of using them they used their naked lights, which resulted in setting fire to the timbers.

The company, regardless of the expense, did all in their power to recover the bodies of the men, before slushing the mines.

## CONDITION OF COLLIERIES AND IMPROVEMENTS

### PHILADELPHIA AND READING COAL AND IRON COMPANY

Locust Spring, West Colliery.—A new lift has been sunk from the third to the fourth lift, 306 feet on the Mammoth seam, which is about fifteen to twenty feet thick. Gangways have been turned off in this lift both east and west. The east gangway is to be connected with the Locust Spring shaft east, so that the water can be run from this colliery to the shaft and drained at that point.

A tunnel is also being driven to the seven foot, north from the bottom member of the Mammoth, which will cut the vein at about two hundred feet. The sanitary condition of the colliery is good.



### Locust Spring Shaft

Outside.—There has been a pair of engines 40x60 and 18 foot drum erected for hoisting from shaft, and a few other improvements have been made.

The sanitary condition of this colliery is good, and road beds are up to the standard.

Locust Gap West.—They are sinking this slope from the seventh to the eighth level. The condition of the colliery is good and road beds are kept in good shape.

Locust Gap, East.—The condition of this colliery was up to the standard up to the time that it was set on fire.

Reliance Colliery.—A tunnel is being driven north on the sixth level across the basin, cutting the number ten and eleven seams on the north dip, also Nos. 8, 9, 10 and 11 seams on south dip. The two members of the Mammoth or 8 and 9 seams, which were worked down 3 lifts on Rhodes' old slope, on the south dip, were full of water. They were tapped from the sixth level of this colliery and very successfully and completely drained out.

The sanitary condition of this colliery is up to the standard.

Henry Clay Shaft.—No improvements worth noting. The sanitary condition of this colliery is good, and road beds are well kept.

Alaska Colliery.—A tunnel is being driven from bottom to top member of Mammoth in southwest gangway, for the purpose of making a landing for the head of No. 3 slope, which is being sunk in the bottom member of the Mammoth, and is down to the depth of 160 feet at this writing and still sinking. At a distance of 300 feet gangways will be turned off east and west. The sinking will be continued to the basin. These improvements will increase the output of this colliery materially. The sanitary condition of the colliery is fairly good and road beds are kept up to the standard.

North Franklin Colliery.—Rennie Drift.—A tunnel is being driven south 840 feet cutting the Lykens Valley seam, which is 4 feet 3 inches thick and fairly good coal.

There has been an electric plant installed at this colliery for haulage purposes. A fine brick building has been erected, 39x34 for the engine and dynamo; size of engines 18x19 and 330 H. P. They are also making preparations to install another engine and dynamo for additional power. There is one 8½ ton motor transporting coal from the different turn-outs, in the drift, to the breaker. In a short time they intend to install another motor, to take the place of mules in hauling from the face of gangways. There has been an 18-foot fan erected, which has made an improvement in the ventilation. Sanitary condition of the colliery is good and road beds are up to the standard.

**Big Mountain Colliery.**—No. 2 slope, which was allowed to fill with water during the strike of 1902, has been drained out and the colliery is in operation again, but not to its full capacity. The sanitary condition of the colliery is fairly good.

#### SUSQUEHANNA COAL COMPANY

**Hickory Swamp Colliery.**—A practically new fan has been built within the last year which has made an improvement in the ventilation.

The sanitary condition of the colliery is fairly good and the road beds are kept pretty fair.

**Hickory Ridge Colliery.**—There has been 53 2-3 yards of tunnel driven within the last year. The other improvements are as follows: New boiler ash conveyor line; new steam line to No. 7 drift, which was also covered; new head houses on No. 5 plane and No. 5 slope; opening up of No. 2 East Drift and No. 2 water hoist practically completed. Sanitary condition of colliery fair.

**Richards Colliery.**—There were 150 2-3 yards of tunnel driven during the past year. New conveyors and drag lines, 8 new jigs, a trestle at breaker for red cars and a new locomotive house were also built. They are also putting new screens and shakers in the breaker. They also sank a new slope to 2d lift on No. 4 seam.

Ventilation and drainage fair.

**Pennsylvania Colliery.**—A new jig house and trestle, a new fan with new airway, new carpenter and blacksmith shops. The dry side of breaker was remodeled and wet side very nearly completed, which means practically a new breaker. There were 166 2-3 yards of tunnel driven in No. 5 slope to Buck mountain vein, and 145 yards gravity plane in No. 10½ seam north dip.

Ventilation and drainage are fairly good.

**Scott Shaft.**—A new breaker is in course of construction, of best Georgia long leaf yellow pine, the latest improved machinery and concrete foundations to be used. New carpenter and blacksmith shops, new dirt plane with concrete piers; 3 sets of Babcock and Wilcox water tube boilers 500 H. P. each, total 1,500 H. P., 125 pounds of steam, 10 engines 1,662 H. P. 2 pumps, pumping to surface 107 H. P.; No. 1 and 2 shafts, engine house with water hoist, coal hoist and accommodation engines, all under one roof, head frames No. 1 and No. 2 shafts having concrete foundations; No. 2 shaft engines having concrete foundations; No. 2 shaft practically sunk, with airway, water hoist and accommodation compartments; tracks and sidings outside. One 18x7 fan, concreted; No. 1 shaft completed with 170 yards of tunnel driven. Now developing and opening up gangways, chutes, headings, etc.

## MINERAL RAILROAD AND MINING COMPANY

Cameron Colliery.—On the morning of February 28, 1904, I was summoned to the Cameron colliery to consult with the officials in regard to extinguishing a mine fire. The origin of the fire was in the pump house on the second level on No. 7 vein south dip. On approaching the top of the slope I met Mr. Rhoads and Mr. Reinhardt, Superintendent of the Mineral Railroad and Mining Company and the Susquehanna Coal Company, respectively, who had just ascended the slope. We returned together and descended the slope again and went to the scene of the fire on the first lift. It resembled a furnace. Several suggestions were made, and finally Mr. Reinhardt suggested the scheme of smothering the fire with steam, which was adopted with good results. The fire had worked its way up through the column pipe to the first lift, and out along No. 7 gangway to tunnel, and through the tunnel north to No. 6 vein, on which seam the fan was situated. An eight inch steam line is brought through this tunnel to No. 7 vein and taken down through a hole driven for that purpose to second level pumphouse. This steam pipe was broken in that tunnel inside of a door which was shut afterwards and nailed, and all other places were closed from which the fire was liable to get any air. The valve on the steam pipe was then opened and a steam pressure of 100 pounds to the square inch was kept on the fire for the next twenty-four hours. When the steam was shut off, we could observe very little fire. The officials lost very little time however. They organized three shifts, and fought the remaining fire for three weeks with three lines of hose and water. On March 21 the fire was totally extinguished.

Much credit is due the officials and employes for the careful and intelligent manner in which they fought the fire.

A word of praise is also due Mr. Edward Brennan, ex-inspector of mines, for his attention and counsel, which proved very helpful.

The sanitary condition of the colliery is fairly good.

Luke Fidler Colliery.—The ventilation, drainage and road beds are up to the standard.

## GREENOUGH RED ASH COAL COMPANY

Greenough Colliery.—A slope has been sunk on the No. 4 vein on north dip to a distance of 760 feet to the basin, and continued across the basin 160 feet to south dip, then up an airway on south dip, 533 feet to an anticlinal, then continued up an airway from top anticlinal to the surface, a distance of 130 feet.

A tunnel is being driven from No. 4 to No. 5 cutting the No. 5 seam at a distance of 84 feet and will be continued to the Skidmore vein. They have also enlarged the area of their airway in the shaft. The

sanitary condition of this colliery is good, and road beds are in good order.

#### EXCELSIOR COAL COMPANY

Excelsior Colliery.—Very few improvements have been made at this colliery. It is an old colliery, and robbing is the principal feature. Ventilation and drainage are up to the standard, and road beds are kept in order.

Corbin Colliery.—A locomotive has been installed to transfer the coal from Brady's slope to the breaker. The sanitary condition of the colliery is good.

#### SHIPMAN KOAL COMPANY

Colbert Colliery.—No improvements worth noting. Sanitary condition of this colliery is fairly good.

#### LLEWELLYN MINING COMPANY

Royal Oak Colliery.—The sanitary condition of this colliery in some parts, is fairly good. In other parts it could be improved; the road beds are kept poorly.

#### SENECA COAL COMPANY

Sioux Colliery.—The sanitary condition of this colliery is fairly good. A slope is being sunk at this colliery on the No. 10 vein to the basin from the 2d lift on the north dip. A bore hole has been sunk from the surface to 2d lift for steam line. The coal will be hoisted to 2d lift and transferred to bottom of present hoisting slope.

#### T. M. RIGHTER COAL COMPANY

Mount Carmel Colliery.—Very few improvements have been made at this colliery. The ventilation and drainage are good and road beds are kept up as well as can be expected under the conditions that surround the colliery inside.

North of the colliery, they are sinking an eight compartment shaft, which is sunk at this writing to a distance of 160 feet. Size of the shaft is 49 feet 2 inches by 12 feet 6 inches in the clear. There are four compartments for coal, two for hoisting water and two for airway. It is encased with stone and cement for a depth of 100 feet from top.

#### WHITE AND WHITE

Columbus No. 2 Colliery.—The ventilation and drainage at this colliery are fairly good and road beds are in good order.



### Mine Foremen's Examinations

The following candidates were recommended for certificates of qualification:

#### Mine Foremen

Charles Muetchler, James O'Connor and Z. B. Fisher.

#### Assistant Mine Foremen

Benjamin Hocking, John Crawford.



## Fifteenth District

COLUMBIA AND DAUPHIN COUNTIES

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Centralia, March 2, 1905.

Hon. James E. Roderick, Chief of Department of Mines:

Sir: I have the honor of transmitting herewith the annual report of the Fifteenth Anthracite District for the year ending December 31, 1904.

Statistics regarding production, employes, condition of collieries, etc., are given in accordance with the requirements of the law.

I assumed the duties of the office August 8, 1904, having been appointed by the honorable judges of the court of Columbia county to fill the vacancy caused by the death of Mr. Martin Kelly.

Respectfully submitted,

JAMES A. O'DONNELL,  
Inspector.

## SUMMARY OF STATISTICS

Number of collieries, .....	6
Number of mines, .....	19
Number of mines in operation, .....	18
Number of tons of coal shipped to market, .....	1,390,429
Number of tons used at mines for steam and heat, .....	244,821
Number of tons sold to local trade and used by employes, .....	38,892
Number of tons of coal produced, .....	1,674,142
Number of persons employed inside of mines, .....	2,688
Number of persons employed outside, .....	1,617
Number of fatal accidents inside of mines, .....	21
Number of fatal accidents outside, .....	2
Number of non-fatal accidents inside of mines, .....	22
Number of non-fatal accidents outside, .....	8
Number of tons of coal produced per fatal accident inside, .....	79,721
Number of persons employed per fatal accident inside, .....	128
Number of persons employed per fatal accident outside, .....	808
Number of persons employed per non-fatal accident inside, .....	122
Number of persons employed per non-fatal accident outside, .....	202
Number of wives made widows by fatal accidents, .....	14
Number of children orphaned by fatal accidents, .....	52
Number of steam locomotives used inside of mines, .....	1
Number of steam locomotives used outside, .....	19
Number of electric motors used inside, .....	5
Number of fans used for ventilation, .....	15
Number of gaseous mines in operation, .....	18

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TABLE A

## PRODUCTION OF COAL

Names of Operators	Tons
Midvalley Coal Company, .....	478,258
Lykens Valley Coal Company, .....	370,262
Philadelphia and Reading Coal and Iron Company, .....	290,728
Summit Branch Mining Company, .....	275,644
Lehigh Valley Coal Company, .....	259,250
Total, .....	1,674,142

## Production by Counties

Columbia, .....	1,028,236
Dauphin, .....	645,906
Total, .....	1,674,142

TABLE B.—Fatal and non-fatal accidents inside and outside of mines; number of tons of coal produced per accident; number of persons employed; number employed per accident

Names of Operators	Fatal Accidents			Non-Fatal Accidents			Tons of coal produced per fatal accident inside	Tons of coal produced per non-fatal accident inside	Number of employees inside	Number of employees outside	Total number of employees	Number of employees inside per fatal accident	Number of employees outside per fatal accident	Number of employees inside per non-fatal accident	Number of employees outside per non-fatal accident
	Inside	Outside	Total	Inside	Outside	Total									
Midvalley Coal Co., .....	2	1	3	4	1	5	159,419	53,140	622	622	554	211	222	70	222
Lykens Valley Coal Co., .....	1	1	2	1	4	5	370,292	12,566	862	357	1,219	857	.....	216	.....
Summit Branch Mining Co., .....	10	.....	10	10	.....	10	27,764	11,881	407	487	894	41	.....	116	.....
Philadelphia and Reading Coal and Iron Co., ..	1	.....	1	1	1	2	145,764	305	305	272	577	345	.....	152	272
Lehigh Valley Coal Co., .....	6	1	7	4	5	9	43,568	64,812	482	279	761	80	373	121	59
Totals and averages for district, .....	21	7	28	22	8	30	79,721	76,997	2,688	1,617	4,305	128	808	132	209





TABLE D.—Classification of non-fatal accidents inside and outside of mines

	Inside										Outside										Grand total	
	By Falls of					By Falling Into					Total Inside					Total outside						
	Coal	State	Roof	By mine cars	By explosion of gas	Smothered by gas	By powder and dynamite	By blasts, etc.	Shafts	Slopes	Manways, breast, etc.	Crushed at batteries	By mules	Suffocated by coal, etc.	Miscellaneous causes	Total inside	By cars	By machinery	By suffocation	By boiler explosions		Miscellaneous causes
January, . . . . .	1										1					1		1				1
February, . . . . .																						
March, . . . . .																						
April, . . . . .	1	1		1												1		1				1
May, . . . . .																		1				
June, . . . . .	1																	1				
July, . . . . .	1																	1				
August, . . . . .																		1				
September, . . . . .	1	1	1	1												4		1				4
October, . . . . .																1						1
November, . . . . .																4						4
December, . . . . .	1																	1				1
Totals, . . . . .	5	1	1	1	1			1			1					10	1	1			1	13

TABLE E.—Occupations of persons killed or fatally injured inside and outside of mines

	Inside											Outside										
	Mine foremen	Assistant mine foremen	Fire bosses and assistants	Miners	Miners' laborers	Drivers and runners	Door-boys and helpers	Pumpmen	Company men	All other employes	Total inside	Superintendents	Foremen	Blacksmiths and carpenters	Engineers and firemen	Slate pickers (boys)	Slate pickers (men)	Book-keepers and clerks	All other employes	Total outside	(Grand total	
January	1						1				1										1	1
February																						
March																						
April											12											12
May	1				1																1	1
June																						
July																						
August																						
September				1					1		1											1
October											12											12
November											3									1	1	3
December																						
Totals	1			1	2	1	1		6		21				1					1	2	23

TABLE F.—Occupations of persons injured inside and outside of mines

	Inside										Outside										Grand total
	Mine foremen	Assistant mine foremen	Fire bosses and assistants	Miners	Miners' laborers	Drivers and runners	Door-boys and helpers	Pumpmen	Company men	All other employes	Total inside	Superintendents	Foremen	Blacksmiths and carpenters	Engineers and firemen	Slate pickers (boys)	Slate pickers (men)	Book-keepers and clerks	All other employes	Total outside	
January.						1					4				1					1	4
February.											1						1			1	2
March.											1				1						2
April.																					
May.																					
June.									1		1										
July.											1										
August.											1										
September.	1			1		1					4									1	6
October.											4										4
November.											4										4
December.											1										1
Totals.	1			13	2	5			1		22				2	1	1		5	8	30

TABLE G.—Nationality of Persons Killed or Fatally Injured Inside and Outside of Mines

	American	English	Irish	Polish	Totals
January, .....	1				1
February, .....	1				
March, .....					
April, .....					
May, .....	10			2	12
June, .....	1				1
July, .....					
August, .....		1			1
September, .....	2				2
October, .....	1		1		2
November, .....		1			1
December, .....	1			2	3
Totals, .....	16	2	1	4	23

TABLE H.—Nationality of Persons Injured Inside and Outside of Mines

	American	English	Irish	German	Polish	Slovakian	Totals
January, .....	2						2
February, .....	1	1					2
March, .....	1		1				2
April, .....	2					1	3
May, .....	1						1
June, .....	1						1
July, .....	1					1	2
August, .....	2					1	3
September, .....	2				1		3
October, .....	2		1		1	1	5
November, .....	1		1	1	1		4
December, .....	1						1
Totals, .....	16	1	2	1	3	4	27





TABLE 1.—Operators, location of collieries, railroads, etc.

Names of Operators and Collieries	County	Name of General Superintendent	Post Office	Name of Superintendent	Post Office	Railroad to Mine
Midvalley Coal Co.						
Midvalley, .....	Columbia, .....	John S. Wentz, ....	Philadelphia, .....	T. E. Saylor, ....	Wilburton, .....	Lehigh Valley
Lykens Valley Coal Co.						
Short Mountain, .....	Dauphin, .....	R. A. Quin, ....	Wilkes-Barre, ....	Hoed McKay, ....	Lykens, .....	Pennsylvania
Philadelphia and Reading Coal and Iron Co.						
Potts, .....	Columbia, .....	W. J. Richards, ..	Pittsboro, .....	John V. Ech, .....	Pittsboro, .....	P. and R.
Summit Branch Mining Co.						
Williamstown, .....	Dauphin, .....	R. A. Quin, .....	Wilkes-Barre, ....	Hoed McKay, ....	Lykens, .....	Summit Branch
Lehigh Valley Coal Co.						
Centralia, .....	Columbia, .....	S. D. Warriner, ...	Wilkes-Barre, ....	J. M. Humphrey, ...	Centralia, .....	Lehigh Valley
Locust Run, .....	Columbia, .....	S. D. Warriner, ...	Wilkes-Barre, ....	J. M. Humphrey, ...	Centralia, .....	Lehigh Valley



TABLE 2.—Recapitulation

Midvalley Coal Co., .....	458,517	17,000	2,741	478,258	263	854	4	10	7,425	102,900	122
Lykens Valley Coal Co., .....	296,253	56,151	17,858	370,262	291	1,219	1	4	3,403	14,118	148
Symmes Branch Mining Co., .....	167,605	103,074	4,965	275,644	254	894	16	4	2,972	26,833	61
Philadelphia and Reading Coal and Iron Co., .....	239,630	45,359	5,739	290,728	262	577	1	3	1	74,699	78
Lehigh Valley Coal Co., .....	238,424	23,237	7,789	259,250	193	761	7	9	5,805	60,946	88
Totals, .....	1,350,429	244,821	38,892	1,674,142	253	4,365	23	30	19,606	278,798	505

TABLE 2.—Continued

Names of Operators	County	Number of Boilers				Locomotives				Total horse power	Number of pumps delivering water to surface	Capacity in gallons per minute	Quantity delivered to surface per minute	Number of electric dynamos	Number of air compressors
		Cylindrical	Horse power	Tubular	Horse power	Total horse power	Steam	Air	Electric						
Midvalley Coal Co.,	Columbia	16	329	13	3,150	3,479	9	.....	.....	3,479	4	3,850	3,820	.....	.....
Lickens Valley Coal Co.,	Philadelphia	50	800	12	2,740	3,440	4	.....	.....	3,440	4	3,692	3,121	.....	1
Summit Branch Mining Co.,	Dauphin	66	3,296	25	4,765	8,061	5	.....	2	8,061	11	7,847	7,299	.....	3
Philadelphia and Reading Coal and Iron Co.,	Columbia	15	.....	15	1,820	3,820	.....	.....	.....	3,820	9	4,725	4,500	.....	.....
Lehigh Valley Coal Co.,	Columbia	15	301	16	2,500	3,601	2	.....	3	3,601	4	2,501	1,261	.....	1
Totals,		127	5,671	86	14,915	19,589	20	.....	5	15,671	25	22,659	16,940	.....	3





TABLE 3.—Recapitulation

Names of Operators	County	Inside										Outside										Grand totals inside and outside
		Mine foremen	Assistant mine foreman	Fire bosses and assistants	Miners	Miners' laborers	Drivers and runners	Door boys and helpers	Pumpmen	Company men	All other employes	Total inside	Superintendents	Foremen	Blacksmiths and carpenters	Engineers and firemen	Slate pickers (boys)	Slate pickers (men)	Book-keepers and clerks	All other employes	Total outside	
Midvalley Coal Co., .....	Columbia, .....	1	2	8	274	179	78	13	4	62	14	632	1	2	19	24	53	21	5	97	252	851
Lyskens Valley Coal Co., .....	Dauphin, .....	11	1	8	260	125	93	13	15	.....	305	862	1	1	22	51	71	.....	7	204	357	1,219
Philadelphia and Reading Coal and Iron Co., .....	Columbia, .....	.....	.....	.....	85	59	23	17	4	23	53	305	.....	1	8	22	73	46	3	119	252	577
Summit Branch Mining Co., ..	Dauphin, .....	4	4	4	150	20	20	1	19	.....	177	407	1	1	17	21	57	.....	4	321	187	864
Lehigh Valley Coal Co., .....	Columbia, .....	1	1	3	220	69	40	2	6	.....	137	482	1	4	17	37	51	.....	3	164	279	761
Totals, .....	.....	12	17	29	1,019	452	264	45	48	85	716	2,688	4	10	52	204	305	69	22	505	1,617	4,305

TABLE 3.—Continued

Names of Operators	County	Average Number of Days Worked in Breaker												Total
		January	February	March	April	May	June	July	August	September	October	November	December	
Midvalley Coal Co. ....	Columbia, .....	23	18	24	22	24	25	21	18	17	25	23	23	263
Lakewood Valley Coal Co. ....	Dauphin, .....	23	23	27	24	24	26	21	24	23	25	25	25	291
Philadelphia and Reading Coal and Iron Co. ....	Columbia, .....	23	19	17	24	23	26	22	20	17	25	23	23	262
Summit Branch Mining Co., .....	Dauphin, .....	21	22	23	22	18	23	19	21	17	22	23	23	254
Lehigh Valley Coal Co., .....	Columbia, .....	.....	.....	18	22	19	22	14	17	16	21	22	22	193
General averages, .....	.....	18	16	22	23	22	24	19	20	18	21	23	24	253

TABLE 4.—Fatal accidents inside and outside of mines

Date of accident	Name of Person	Nationality	Occupation	Age	Married or single	Number of widows	Number of orphans	Name of Mine	County	Nature and Cause of Accident in Brief
Jan.	26 John Tueful, .....	American, ..	Door boy, ..	17 S.	.....	.....	.....	Patt's, .....	Columbia, .....	Instantly killed by falling timber.
May	4 Anthony Zithency, ....	Polish, .....	Miner, .....	40 M.	1	4	.....	Centralia, .....	Columbia, .....	Killed by pillar of coal falling on him.
21	Joe Holstranes, .....	Polish, .....	Miner, .....	24 S.	.....	.....	.....	Centralia, .....	Columbia, .....	Killed by pillar of coal falling on him.
23	Michael Golden, .....	American, ..	Gen'l inside foreman,	56 M.	1	8	.....	Williamstown, ..	Dauphin, .....	Killed by pillar of coal falling on him.
25	Albert Nau, .....	American, ..	Loco. engine-er,	18 S.	.....	.....	.....	Williamstown, ..	Dauphin, .....	.....
25	Joseph Punch, .....	American, ..	Laborer, .....	25 S.	.....	.....	.....	Williamstown, ..	Dauphin, .....	.....
25	Henry V. Fredrick, ....	American, ..	Trackman, ..	43 M.	1	4	.....	Williamstown, ..	Dauphin, .....	.....
25	John Keaney, .....	American, ..	Miner, .....	31 M.	1	2	.....	Williamstown, ..	Dauphin, .....	.....
25	George Radke, .....	American, ..	Master mechanic,	41 M.	1	.....	.....	Williamstown, ..	Dauphin, .....	.....
25	Enoch Morgan, .....	American, ..	Miner, .....	37 M.	1	6	.....	Williamstown, ..	Dauphin, .....	.....
25	Bart James, .....	American, ..	Miner, .....	31 S.	.....	.....	.....	Williamstown, ..	Dauphin, .....	.....
25	Torpelas Koppenhaver, ..	American, ..	Trackman, ..	44 M.	1	10	.....	Williamstown, ..	Dauphin, .....	.....
25	Aaron Koppenhaver, ..	American, ..	Trackman, ..	49 M.	1	1	.....	Williamstown, ..	Dauphin, .....	.....
June	3 Henry Karved, .....	American, ..	Outside loco. helper,	21 S.	.....	.....	.....	Midvalley No. 1, ..	Columbia, .....	.....
Aug.	19 Charles Pickup, .....	English, .....	Miner, .....	29 S.	.....	.....	.....	Short Mountain, ..	Dauphin, .....	Killed by falling under mine cars. Out-side.
Aug.	17 James E. Jackson, .....	American, ..	Miner, .....	38 S.	1	5	.....	Midvalley No. 1, ..	Columbia, .....	Fatally injured by gas explosion.
Sept.	11 Patrick Gallagher, ....	American, ..	Trackman, ..	20 S.	.....	.....	.....	Centralia, .....	Columbia, .....	Killed by fall of rock.
Oct.	6 Thomas Finnlan, .....	American, ..	Miner, .....	47 M.	1	4	.....	Centralia, .....	Columbia, .....	Killed by falling down the slope.
27	Anthony Rowan, .....	Irish, .....	Miner, .....	40 M.	1	3	.....	Midvalley No. 1, ..	Columbia, .....	Killed while starting coal in a battery.
Nov.	15 Richard Tovey, .....	English, .....	Miner, .....	53 M.	1	.....	.....	Centralia, .....	Columbia, .....	Killed by fall of coal.
Dec.	2 David Watkins, .....	American, ..	Miner, .....	48 M.	1	2	.....	Midvalley No. 2, ..	Columbia, .....	Fatally injured in stripping by premature blast, outside.
10	John Norusky, .....	Polish, .....	Miner, .....	48 S.	.....	.....	.....	Centralia, .....	Columbia, .....	Killed by fall of coal.
13	Michael Lepule, .....	Polish, .....	Laborer, .....	25 M.	1	3	.....	Centralia, .....	Columbia, .....	Killed by runaway car on slope.

TABLE 5.—Non-fatal accidents inside and outside of mines

Date of accident	Name of Person		Nationality	Occupation	Age	Married or single	Name of Mine	County	Nature and Cause of Accident in Brief
Feb. 5	Ben Woffenden,	.....	American,	Driver,	.....	19	S. Williamstown,	Dauphin,	Hips squeezed between cars and door frame.
5	William Baddof,	.....	American,	Miner,	.....	29	M. Williamstown,	Dauphin,	Body and legs bruised by falling down manway.
8	John Andleath,	.....	Polish,	Miner,	.....	M.	Midvalley No. 1,	Columbia,	Head and face cut by premature blast.
8	Peter Gudutski,	.....	Polish,	Miner,	.....	18	Midvalley No. 1,	Columbia,	Head and face cut by same blast.
9	William Hill,	.....	English,	Engineer,	.....	22	Williamstown,	Dauphin,	Leg broken in scraper line. Outside.
4	Andrew Hannon,	.....	American,	Slate picker,	.....	16	Potts,	Columbia,	Body bruised by machinery. Outside.
27	Patrick McAndrew,	.....	Irish,	Miner,	.....	55	Centralia,	Columbia,	Leg broken by fall of coal.
April 14	Peter Bradley,	.....	American,	Miner,	.....	18	Centralia,	Columbia,	Leg and foot bone broken. Starting an engine off center. Outside.
22	Paul Balusko,	.....	Slavonian,	Miner,	.....	M.	Midvalley No. 2,	Columbia,	Two ribs fractured by fall of slate.
23	Archey Payne,	.....	American,	Engineer,	.....	17	Locust Run,	Columbia,	Foot bone broken handling machinery. Outside.
June 20	Abe Monahan,	.....	American,	Miner,	.....	30	Potts,	Columbia,	Spinal cord injured by fall of coal.
July 6	Edward Kuhn,	.....	American,	Laborer,	.....	25	Centralia,	Columbia,	Arm fractured by fall of coal.
10	Michael Shoeman,	.....	Slavonian,	Laborer,	.....	38	Centralia,	Columbia,	Body bruised by boiler rolling on him. Outside.
Aug. 5	Joseph Welsh,	.....	American,	Laborer,	.....	17	Centralia,	Columbia,	Three ribs and foot bone fractured by a rock dumper. Outside.
18	John Conaway,	.....	American,	General inside foreman,	.....	44	Centralia,	Columbia,	Rib fractured by falling timber.
24	Andrew Smith,	.....	Slavonian,	Miner,	.....	23	Midvalley No. 1,	Columbia,	Body and head bruised by falling under body. Outside.
Sept. 2	James Malarky,	.....	American,	Driver,	.....	24	Midvalley No. 2,	Columbia,	Fractured ribs between car and rib.
12	Fred. J. Zerhey,	.....	American,	Miner,	.....	35	Short Mountain,	Dauphin,	Leg fractured by fall of coal.
16	Frank Rozuskie,	.....	Polish,	Miner,	.....	35	Short Mountain,	Columbia,	Foot crushed by fall of coal.
27	Richard Buckley,	.....	American,	Laborer,	.....	30	Bear Gap,	Dauphin,	Arm fractured, scalp lacerated and body bruised. Fall of rock.
Oct. 1	Rodger Sheran,	.....	American,	Laborer,	.....	22	Centralia,	Columbia,	Leg and three ribs fractured. Squeezed by cars. Outside.
8	Joseph Henitz,	.....	American,	Driver,	.....	17	Short Mountain,	Columbia,	Breast bone broken by falling under cars.
11	Lester Wallick,	.....	Slavonian,	Miner,	.....	40	Midvalley No. 1,	Columbia,	Three ribs fractured by fall of rock.
12	Ellick Pershutski,	.....	Polish,	Miner,	.....	33	Centralia,	Columbia,	Hands and face lacerated by premature blast.

TABLE 5.—Continued

Date of accident	Name of Person	Nationality	Occupation	Age	Married or single	Name of Mine	County	Nature and Cause of Accident in Brief
Oct. 24	James Narry, .....	Irish, .....	Driver, .....	.....	S.	Midvalley No. 1, ...	Columbia, .....	Two ribs fractured by being bumped between cars. Fractured small bone of leg between car and air pipe. Leg fractured by fall of rock. Bruised back by fall of top rock. Leg broken by flying coal from outburst of gas.
Nov. 9	Daniel Davis, .....	American, .....	Driver, .....	21	M.	Short Mountain, ...	Dauphin, .....	
12	Francis Umlauf, .....	German, .....	Miner, .....	40	M.	Potts, .....	Columbia, .....	
25	William Reddick, .....	Irish, .....	Miner, .....	28	M.	Midvalley No. 1, ...	Columbia, .....	
25	Stanley Carshefsky, .....	Polish, .....	Laborer, .....	25	S.	Midvalley No. 1, ...	Columbia, .....	Leg broken by flying coal from outburst of gas.
Dec. 3	Morris Miller, .....	American, .....	Miner, .....	37	M.	Williamstown, .....	Dauphin, .....	



Accident at Centralia Colliery of the Lehigh Valley Coal Company,  
by Fall of Coal

Anthony Zitheney and Joe Hofshanes, miners at Centralia colliery, lost their lives on May 4 by a fall of coal. They were robbing pillars in the Holmes vein which is about 12 feet thick on a pitch of 40 degrees. The plan of removing the pillars was by driving a manway up the center of the pillar and propping up the top bench of coal which made the manway about 6 feet high. A brattice was carried on one side. The victims cut the manway through to a cross heading, which was driven when the breasts were worked. This weakened the pillar so that it began to move, and one of the men in the adjoining pillar advised them to go home and give it time to fall or become settled. They paid no attention to the warning.

CONDITION OF COLLIERIES

LYKENS VALLEY COAL COMPANY

Short Mountain Colliery. Condition of colliery as to ventilation and drainage is good.

SUMMIT BRANCH MINING COMPANY

Williamstown Colliery.—Ventilation and drainage are good.

MIDVALLEY COAL COMPANY

Midvalley Nos. 1 and 2.—Ventilation and drainage are fair.

PHILADELPHIA AND READING COAL AND IRON COMPANY

Potts Colliery.—Ventilation and drainage are good.

LEHIGH VALLEY COAL COMPANY

Centralia Colliery.—On my first visit to this colliery I found in some parts the ventilation was not as good as it ought to be. Later I found some improvement in the ventilation and condition in general.

Mine Foremen's Examinations

The annual examination of candidates for certificates of qualification as mine foremen and assistant mine foremen, was held in the court house at Pottsville on April 27 and 28. The following applicants were recommended to the Chief of the Department of Mines for certificates:

Mine Foremen

James Kealey, Michael Grant, James Flynn, Thomas J. Quigley.

Assistant Mine Foremen

Frank Berry, Patrick Tighe.



# ANTHRACITE MINING LAWS

## AN ACT

To provide for the health and safety of persons employed in and about the anthracite coal mines of Pennsylvania and for the protection and preservation of property connected therewith.

### ARTICLE I

Section 1. Be it enacted, &c., That this act shall apply to every anthracite coal mine or colliery in the Commonwealth, provided the said mine or colliery employs more than ten (10) persons. Application of act.

### ARTICLE II

#### Inspectors and Inspection Districts

Section 1. The counties of Susquehanna, Wayne, Luzerne, Lackawanna, Carbon, Schuylkill, Northumberland, Columbia, Lebanon and Dauphin, or so much of them as may be included under the provisions of this act, shall be divided into eight (8) inspection districts as follows: Counties and their division into eight districts.

Section 2. First. All that portion of the Lackawanna coal field lying northeast of East and West Market streets in the city of Scranton, and of Slocum and Drinker streets in the borough of Dunmore, including the coal fields of Susquehanna and Wayne counties. First district.

Second. That portion of the Lackawanna coal field in Lackawanna county lying southwest of East and West Market streets in the city of Scranton, and west of Slocum and Drinker streets in the borough of Dunmore. Second district.

Third. That portion of the Wyoming coal field situ- Third district.

ated in Luzerne county, east of and including Plains and Kingston townships.

Fourth district.

Fourth. The remaining portion of the Wyoming coal field west of Plains and Kingston townships, including the city of Wilkes-Barre and the boroughs of Kingston and Edwardsville.

Fifth district.

Fifth. That part of Luzerne county lying south of the Wyoming coal field together with Carbon county.

Sixth district.

Sixth. That part of the Schuylkill coal field in Schuylkill county lying north of the Broad Mountain and east of a meridian line through the centre of the borough of Girardville.

Seventh district.

Seventh. That part of the Schuylkill coal field in Schuylkill county lying north of the Broad Mountain and west of a meridian line through the centre of the borough of Girardville, together with Columbia, Northumberland and Dauphin counties.

Eighth district.

Eighth. All that part of the Schuylkill coal field in Schuylkill county lying south of the Mahanoy Valley, and the county of Lebanon.

How vacancies shall be filled.

Section 3. In order to fill any vacancy that may occur in the office of Inspector of Mines by reason of expiration of term, resignation, removal for cause or from any other reason whatever, the judges of the court of Lackawanna county shall appoint an examining board for the counties of Susquehanna, Wayne and Lackawanna, and the judges of the court of Luzerne county shall appoint an examining board for the counties of Sullivan, Carbon and Luzerne, and the judges of Schuylkill county shall appoint an examining board for the counties of Schuylkill, Northumberland, Lebanon, Columbia and Dauphin.

Board of examiners, and when appointed.

Section 4. The said Board of Examiners shall be composed of three reputable coal miners in actual practice and two reputable mining engineers, all of whom shall be appointed at the first term of court in each year, to hold their places during the year. Any vacancies that may occur in the Board of Examiners shall be filled by the court as they occur. The said Board of Examiners shall be permitted to engage the services of a clerk, and they, together with the clerk, shall each receive the sum of five dollars per day for every day they are actually engaged in the discharge of their duties under this appointment, and mileage at the rate of six cents per mile from their home to

Vacancies to be filled by the court.

May engage clerk.

Compensation and mileage allowed.

the place of meeting and return by the nearest practicable railway route.

Section 5. Whenever candidates for the office of inspector are to be examined, the said examiners shall give public notice of the fact in not more than five papers published in the inspection district and at least two weeks before the meeting, specifying the time and place where such meeting shall be held. The said examiners shall be sworn to a faithful discharge of their duties, and four of them shall agree in their recommendation of all candidates to the Governor who have answered ninety per centum of the questions; the names of the applicants, the questions asked and answers thereto shall be sent to the Secretary of the Commonwealth, and published in at least two local papers, daily or weekly, and shall recommend only such applicants as they find qualified for the office.

Notice of examination of inspectors to be published.

Examiners to be sworn.

Recommendations, etc., to be sent to the Secretary of the Commonwealth.

Should the Board of Examiners not be able to agree in their selection and recommendation of a candidate, the judges of the court of common pleas shall dissolve the said board and appoint a new board of like qualifications and powers.

If Board of Examiners fail to agree, court may dissolve Board.

Upon the recommendation of the Board of Examiners as aforesaid, the Governor shall appoint such person or persons to fill the office of inspector of mines under this act, and shall issue to him a commission for the term of five years, subject, however, to removal for neglect of duty or malfeasance in office as hereinafter provided for.

Governor shall appoint inspectors on recommendation of Board.

Removal.

Section 6. The person so appointed must be a citizen of Pennsylvania and shall have attained the age of thirty years. He must have a knowledge of the different systems of working coal mines, and he must produce satisfactory evidence to the Board of Examiners of having had at least five (5) years' practical experience in anthracite coal mines of Pennsylvania. He must have had experience in coal mines where noxious and explosive gases are evolved.

Inspectors must be citizens of Pennsylvania and thirty years old.

Experience required.

Before entering upon the duties of his office he shall take an oath or affirmation before an officer properly qualified to administer the same, that he will perform his duties with fidelity and impartiality; which oath or affirmation shall be filed in the office of the prothonotary of the county. He shall also pro-

Must be sworn or affirmed.

Filing of oath.



Shall have modern instruments.

vide himself with the most modern instruments and appliances for carrying out the intentions of this act.

Salary.

Section 7. The salary of each of the said inspectors shall be three thousand dollars per annum, which salary, together with the expense incurred in carrying into effect the provisions of this act, shall be paid by the State Treasurer out of the Treasury of the Commonwealth upon the warrant of the Auditor General.

How payable.

Section 8. In case the inspector becomes incapacitated to perform the duties of his office, for a longer period than two weeks, it shall be the duty of the judges of the court of common pleas to deputize some competent person recommended by the Board of Examiners to fill the office of inspector until the said inspector shall be able to fulfill the duties of his office and the person so appointed shall be paid in the same manner as is provided for the Inspector of Mines.

When and how deputy may be appointed.

Section 9. Each of the said inspectors shall reside in the district for which he is appointed, and shall give his whole time and attention to the duties of the office. He shall examine all the collieries in his district as often as his duties will permit or as often as the exigencies of the case or the condition of the mines require it; see that every necessary precaution is taken to secure the safety of the workmen and that the provisions of this act are observed and obeyed; attend every inquest held by the coroner, or his deputy, upon the bodies of persons killed in or about the collieries in his district; visit the scene of the accident for the purpose of making an examination into the particulars of the same whenever loss of life or serious personal injury occurs as elsewhere herein provided for, and make an annual report of his proceedings to the Secretary of Internal Affairs of the Commonwealth at the close of every year, enumerating all the accidents in and about the collieries of his district, marking in tabular form those accidents causing death or serious personal injury, the condition of the workings of the said mines with regard to the safety of the workmen therein and the ventilation thereof, and the result of his labors generally shall be fully set forth.

Must reside in district for which appointed.

Shall examine collieries.

Shall attend every inquest.

Shall make an annual report to Secretary of Internal Affairs.

Contents of report.

Board may readjust districts.

Section 10. The Board of Examiners, each for its respective district as hereinbefore provided for, in order to divide more equitably among the several

mine inspectors the labor to be performed and the territory to be covered by them in the performance of the duties of the office, may, at any time when they shall deem it desirable or necessary, readjust the several districts by the creation of new boundary lines, thereby adding to or taking from, as the case may be, the districts as at present bounded and described, if the court having jurisdiction approve the same.

Court must approve same.

And in case it shall be deemed desirable or necessary to readjust any contiguous district, comprised of more than one judicial district, by the creation of new boundary lines, then in such case the examining boards, of the territory affected or requiring such adjustment, shall, in joint session, make such change or readjustment as they shall jointly agree upon, if the nearest court having jurisdiction in the territory affected to whom the said joint examining boards shall submit the matter, shall approve the same.

District comprising more than one judicial district.

Section 11. The mine inspector shall have the right, and it is hereby made his duty, to enter, inspect and examine any mine or colliery in his district and the workings and machinery belonging thereto, at all reasonable times, either by day or night, but not so as to impede or obstruct the working of the colliery, and shall have power to take one or more of his fellow inspectors into or around any mine or colliery in the district for which he is appointed, for the purpose of consultation or examination.

Duty of mine inspector.

Shall not impede the working of the colliery.

He shall also have the right and it is hereby made his duty, to make inquiry into the condition of such mine or colliery workings, machinery, ventilation, drainage, method of lighting or using lights, and into all matters and things connected with or relating to, as well as to make suggestions providing for the health and safety of persons employed in or about the same, and especially to make inquiry whether the provisions of this act have been complied with.

Shall inquire into condition of mine or colliery.

The owner, operator or superintendent of such mine or colliery is hereby required to furnish the means necessary for such entry, inspection, examination, inquiry and exit.

Owner required to furnish means necessary for entry of inspectors, etc.

The inspector shall make a record of the visit, noting the time and material circumstances of the inspection.

Must record visit.

Inspector shall not be pecuniarily interested in colliery.

Section 12. No person who shall act or practice as a land agent or as the manager or agent of any coal mine or colliery, who is pecuniarily interested in operating any coal mine or colliery in his district, shall at the same time, hold the office of inspector of mines under this act.

How charges of incompetency, etc., of inspector shall be presented.

Section 13. Whenever a petition signed by fifteen or more reputable coal operators or miners or both, setting forth that any inspector of mines neglects his duties, or is incompetent, or is guilty of malfeasance in office, it shall be the duty of the court of common pleas of the proper county to issue a citation in the name of the Commonwealth to the said inspector to appear at not less than five days' notice, on a day fixed, before said court and the court shall then proceed to inquire into and investigate the allegations of the petitioners. If the court find that said inspector is neglectful of his duties or that he is incompetent to perform the duties of the office, for any cause that existed previous to his appointment or that has arisen since his appointment, or that he is guilty of malfeasance in office, the court shall certify the same to the Governor of the Commonwealth, who shall declare the office of inspector for the district vacant and proceed, in compliance with the provisions of this act, to appoint a properly qualified person to fill the office.

Investigation of charges.

How inspector may be removed.

How vacancy shall be filled.

Costs of investigation.

The cost of said investigation shall be borne by the removed inspector; but if the allegations in the petition are not sustained the costs shall be paid by the petitioners.

Inspector shall keep maps, etc., in a convenient place.

Section 14. The maps and plans of the mines and the records thereof, together with all the papers relating thereto, shall be kept by the inspector, properly arranged and preserved, in a convenient place in the district for which each inspector has been appointed, and shall be transferred by him with any other property of the Commonwealth that may be in his possession to his successor in office.

Inspectors now acting shall continue until term expires.

Section 15. The persons who, at the time this act goes into effect, are acting as inspectors of mines under the acts hereby repealed shall continue to act in the same manner as if they had been appointed under this act, and until the term for which they were appointed has expired.

## ARTICLE III

## Maps and Plans

Section 1. The owner, operator or superintendent of every coal mine or colliery shall make, or cause to be made, an accurate map or plan of the workings or excavations of such coal mine or colliery, on a scale of one hundred feet to the inch, which map or plan shall exhibit the workings or excavations in each and every seam of coal and the tunnels and passages connecting with such workings or excavations. It shall state in degrees the general inclination of the strata with any material deflection therein in said workings or excavations, and shall also state the tidal elevations of the bottom of each and every shaft, slope, tunnel and gangway, and of any other point in the mine or on the surface where such elevation shall be deemed necessary by the inspector. The map or plan shall show the number of the last survey station and date of each survey on the gangways or the most advanced workings. It shall also accurately show the boundary lines of the lands of the said coal mine or colliery and the proximity of the workings thereto, and in case any mine contains any water dammed up in any part thereof, it shall be the duty of the owner, operator or superintendent to cause the true location of the said dam to be accurately marked on said map or plan, together with the tidal elevation, inclination of strata and area of said workings containing water, and whenever any workings or excavations are approaching the workings where such dam or water is contained or situated, the owner, operator or superintendent shall notify the inspector of the same without delay.

Owner shall have accurate maps made of mines.

What shall be shown on maps.

A true copy of which map or plan the said owner, operator or superintendent shall deposit with the inspector of mines for the district in which the said coal mine or colliery is situated, showing the workings of each seam, if so desired by the inspector, on a separate sheet of tracing muslin. One copy of the said map or plan shall be kept at the colliery.

Shall give copy of map to inspector and keep one at colliery.

Section 2. The said owner, operator or superintendent shall, as often as once in every six months, place, or caused to be placed, on the said inspector's map or

Shall record changes on maps every six months.



Extensions shall be placed on inspector's maps within two months from date of last survey.

plan of said coal mine or colliery, the plan of the extensions made in such coal mine or colliery during the preceding six months. The said extensions shall be placed on the inspector's map and the map returned to the inspector within two months from the date of the last survey.

Maps of worked-out or abandoned colliery must include all excavations, etc.

Section 3. When any coal mine or colliery is worked out preparatory to being abandoned, or when any lift thereof is about to be abandoned, the owner, operator or superintendent of such coal mine or colliery shall have the maps or plans thereof extended to include all excavations, as far as practicable, and such portions thereof as have been worked to the boundary lines of adjoining properties; or any part or parts of the workings of which it is intended to be allowed to fill with water, must be surveyed in duplicate and such surveys must practically agree, and certified copies be filed with the inspector of the district in which the mines are situated.

Maps shall be extended and certified to inspector.

Neglect or refusal of owner to make map.

Section 4. Whenever the owner, operator or superintendent of any coal mine or colliery shall neglect or refuse, or from any cause not satisfactory to the inspector, shall fail, for a period of three months, to furnish to the inspector the map or plan of said colliery or of the extensions thereto, as provided for in this act, the inspector is hereby authorized to cause an accurate map or plan of such coal mine or colliery to be made at the expense of the owner thereof, which cost shall be recoverable from said owner as other debts are by law recoverable.

Inspector shall make map and recover costs from owner.

How an inaccurate map may be corrected.

Section 5. If the inspector finds or has reason to believe, that any map or plan of any coal mine or colliery, furnished under the provisions of this act, is materially inaccurate, it shall be his duty to make application to the court of common pleas of the county in which such colliery is situated for an order to have an accurate map or plan of said colliery prepared, and if such survey shall prove that the map furnished was materially inaccurate or imperfect, such owner, operator or superintendent shall be liable for the expense incurred in making the same.

Owner liable for costs.

When Commonwealth is liable for costs.

Section 6. If it shall be found that the map or plan furnished by the owner, operator or superintendent was not materially inaccurate or imperfect, the Com-



monwealth shall be held liable for the expense incurred in making such test survey.

Section 7. If it shall be shown that the said owner, operator or superintendent has knowingly or designedly caused or allowed such map or plan, when furnished, to be incorrect or false, such owner, operator or superintendent thus offending, shall be guilty of a misdemeanor and upon conviction thereof, shall be punished by a fine not exceeding five hundred dollars or imprisonment not exceeding three months, at the discretion of the court.

Penalty for knowingly furnishing incorrect map.

Section 8. The maps or plans of the several coal mines or collieries in each district and which are placed in the custody of the inspector, shall be the property of the Commonwealth, and shall remain in the care of the inspector of the district in which the said collieries are situated to be transferred by him to his successor in office; and in no case shall a copy of the same be made without the consent of the owner, operator or superintendent.

Maps shall be property of Commonwealth and shall be in custody of inspector.

Section 9. The inspector's map or plan of any particular colliery shall be open for inspection, in the presence of the inspector, to any miner or miners of that colliery, whenever said miner or miners shall have cause to fear that his or their working place or places are becoming dangerous, by reason of the proximity to other workings which may be supposed to contain water or dangerous gases. Said map shall also be open to the inspection and examination of any citizen interested during business hours.

Inspector's map shall be open for inspection.

Section 10. It shall be obligatory on the owners of adjoining coal properties to leave, or cause to be left, a pillar of coal in each seam or vein of coal worked by them, along the line of adjoining property, of such width, that taken in connection with the pillar to be left by the adjoining property owner, will be a sufficient barrier for the safety of the employes of either mine in case the other should be abandoned and allowed to fill with water; such width of pillar to be determined by the engineers of the adjoining property owners together with the inspector of the district in which the mine is situated, and the surveys of the face of the workings along such pillar shall be made in duplicate and must practically agree. A copy of such duplicate surveys, certified to, must be filed with

Owner shall leave pillar of coal in each seam along the line of adjoining property.

How width of pillar shall be determined.

Copy of surveys certified to must be filed with owners and inspectors.

the owners of the adjoining properties and with the inspector of the district in which the mine or property is situated.

#### ARTICLE IV

##### Shafts, Slopes, Openings and Outlets

Employes must be in connection with every seam, etc.

Must be two openings from every lift.

Safe means of ingress and egress.

Shall not apply to opening a new mine, etc., if not more than twenty persons are employed.

Cages shall be available.

How owner shall proceed where there is only one outlet.

Petition and contents.

Section 1. It shall not be lawful for the owner, operator or superintendent of any mine to employ any person or persons in such mine or permit any person or persons to be in such mine for the purpose of working therein, unless they are in connection with every seam or stratum of coal; and from every lift thereof, worked in such mine, not less than two openings or outlets, separated by a stratum of not less than sixty (60) feet in breadth underground, and one hundred and fifty (150) feet in breadth at the surface, at which openings or outlets safe and distinct means of ingress and egress are at all times available for the person or persons employed in the said mine, but it shall not be necessary for the said two openings to belong to the same mine if the persons employed therein have safe, ready and available means of ingress and egress by not less than two openings. This section shall not apply to opening a new mine or to opening any new lift of a mine while being worked for the purpose of making communication between said two outlets, so long as not more than twenty persons are employed at any one time in such mine or new lift of a mine; neither shall it apply to any mine or part of a mine in which the second outlet has been rendered unavailable by reason of the final robbing of pillars previous to abandonment, so long as not more than twenty persons are employed therein at any one time. The cage or cages and other means of egress shall, at all times, be available for the persons employed where there is no second outlet.

Section 2. The owner, operator or superintendent of any mine to which there is only one shaft, slope or outlet may petition the court of common pleas in which such mine is situated, which said court is hereby empowered to act in the premises, setting forth that, in consequence of intervening lands between the working of his mine and the most practicable point, or the only practicable point, as the case may be, at

which to make or bring to the surface from the working of his mine, he is unable to make an additional shaft, slope or outlet in accordance with the requirements of this act, whereupon the court may make an order of reference and appoint three disinterested persons, residents of the county, viewers, one or more of whom shall be a practical mining engineer, all of whom, after being sworn to a faithful discharge of their duties, shall view and examine the premises and determine as to whether the owner shall have the privilege of making an additional outlet through or upon any intervening lands, as the case may require, and report in writing to the court, which report shall be entered and filed of record. If the finding of the viewers, or any two of them, is in favor of the owner of such coal mine or colliery, he may make an additional shaft, slope or outlet under, through or upon intervening lands, as may be determined upon and provided for by the award. If the finding of the viewers is against the owner, or if no award be made by reason of any default or neglect on the part of the owner, he shall be bound to comply with the provisions of this act in the same manner as if this section had not been enacted. In case the said owner, operator or superintendent desires to, and claims that he ought to make an additional opening under, through or upon any adjoining or intervening lands, to meet the requirements of this act, for the ingress and egress of the men employed in his or their mine, he or they shall make a statement of the facts in the petition, with a survey, setting forth the point of commencement and the point of termination of the proposed outlet which he or they, their engineers, agents or employes may enter upon said intervening lands and survey and mark, as he or they shall find it proper to adopt for such additional outlet, doing as little damage as possible to the property explored; and the viewers shall state in their report what damage will be sustained by the owner or owners of the intervening lands by the opening, constructing and using of the outlet, and if the report is not appealed from, it shall be confirmed or rejected by said court, and any further and all proceedings in relation thereto shall be in conformity with like proceedings as in the case of a lateral railroad across or under intervening lands.

Court shall appoint three viewers.

They shall be sworn and shall examine the premises.

Shall report to the court.

Owner may make additional opening if report is favorable.

Must comply with provisions of this act.

Proceedings where owner desires to make additional opening.

Shall make a statement of facts, etc.

Proceedings in relation to opening shall be same as for lateral railroad.

under the act in relation to lateral railroads, approved the fifth day of May, Anno Domini one thousand eight hundred and thirty-two, and the supplements thereto, so far as the provisions of the same are applicable hereto; and the notices to the owner of intervening lands, of the intention to apply for the privilege of making an outlet and meeting of the viewers shall be given, and the costs of the case shall be paid as provided in the said act of fifth day of May, Anno Domini one thousand eight hundred and thirty-two, and the supplements thereto.

How notice shall be given and costs paid.

Appliances for escape in case of accident.

Section 3. The escapements, shafts or slopes shall be fitted with safe and available appliances by which the persons employed in the mine may readily escape in case an accident occurs deranging the hoisting machinery at the main outlets.

Separate traveling way.

Section 4. In slopes where the angle of inclination is fifteen degrees or less there must be provided a separate traveling way, which shall be maintained in a safe condition for travel and kept free from steam and dangerous gases.

No inflammable structures shall be erected over openings.

Section 5. No inflammable structure, other than a frame to sustain pulleys or sheaves, shall be erected over the entrance of any opening connecting the surface with the underground workings of any mine, and no "breaker" or other inflammable structure for the preparation or storage of coal shall be erected nearer than two hundred (200) feet to any such opening, but this act shall not be construed to prohibit the erection of a fan drift for the purpose of ventilation, or of a trestle for the transportation of cars from any slope to such breaker or structure; neither shall it apply to any shaft or slope until the work of development and shipment of coal has commenced: Provided, That this section shall not apply to breakers that are now erected.

Structures permitted.

Top of shaft shall be securely fenced.

Section 6. The top of each shaft and also of each slope, if dangerous, or any intermediate lift thereof, shall be securely fenced off by railing or by vertical or flat gates.

Abandoned slope shall be fenced.

Section 7. Every abandoned slope, shaft, air-hole and drift shall be properly fenced around or across its entrance.

Underground entrances shall be fenced.

Section 8. All underground entrances to any places not in actual course of working or extension shall be



properly fenced across the whole width of such entrances, so as to prevent persons from inadvertently entering the same.

Section 9. The owner, operator or superintendent of any coal mine or colliery which is worked by shaft or slope, shall provide and maintain a suitable appliance by or through which conversation can be held by and between persons at the bottom and at the top of the shaft or slope, and also an efficient means of signaling from the bottom of such shaft or slope to the engineer in charge of the hoisting engine.

Speaking tubes shall be provided.

Section 10. Hand rails and efficient safety catches shall be attached to, and a sufficient cover overhead shall be provided on every cage used for lowering or hoisting persons in any shaft.

Signals shall be provided.

Hand rails shall be attached to every cage.

Section 11. Whenever practicable, every cage or gun-boat used for lowering or hoisting persons in any slope, shall be provided with a proper protector, so constructed that persons, while on such cage or gun-boat, shall not be struck by anything which may fall or roll down said slope.

Cages, etc., shall be protected.

Section 12. The main link of the chain connecting the rope to the cage, gun-boat or car in any shaft or slope, shall be made of the best quality of iron. Bridle chains made of the same quality of iron shall be attached to the main link, rope or rope socket from the cross-head of the cage or gun-boat when persons are being lowered or hoisted thereon.

Main link, etc., shall be of best quality of iron.

Section 13. The ropes, safety catches, links and chains shall be carefully examined every day they are used, by a competent person delegated for that purpose and any defects therein found, by which life or limb may be endangered, shall be immediately remedied.

Ropes, etc., shall be examined every day.

Section 14. An efficient brake shall be attached to every drum that is used for lowering or raising persons or material in any mine.

Efficient brake to every drum.

Section 15. Flanges or horns of sufficient dimensions to prevent the rope from slipping off the said drum shall be provided and properly attached to the drum, and all machines used for lowering or hoisting persons in mines shall be provided with an indicator to show the position of the cage, car or gun-boat in the shaft or slope.

Flanges to prevent rope from slipping off drum.

Indicators.



Substantial structure to sustain pulley.

Section 16. Over all shafts which are being sunk or shall hereafter be sunk, a safe and substantial structure shall be erected to sustain the sheaves or pulleys, at a height of not less than twenty (20) feet above the tipping-place, and the top of such shaft shall be arranged in such manner that no material can fall into the shaft while the bucket is being emptied.

Material must not fall into shaft.

When structure for pulley shall be erected.

Section 17. The said structure shall be erected as soon as a substantial foundation is obtained, and in no case shall a shaft be sunk to a depth of more than fifty (50) feet without such structure.

How truck for landing buckets shall be constructed.

Section 18. If provision is made to land the bucket upon truck, the said truck shall be constructed in such manner that material cannot fall into the shaft.

Rock and coal to be raised in buckets.

Section 19. All rock and coal from shafts as they are being sunk, shall not be raised except in a bucket or on a cage, and such bucket or cage must be connected to the rope or chain by a safety hook, clevis or other safe attachment.

Safety hook.

Guides to prevent bucket from swinging.

Section 20. Such shafts shall be provided with guides and guide attachments applied in such manner as to prevent the bucket from swinging while descending or ascending therein, and such guides and guide attachments shall be maintained at a distance of not more than seventy-five (75) feet from the bottom of such shaft, until its sinking shall have been completed, but this section shall not apply to shafts one hundred (100) feet or less in depth.

If strata are not safe shaft shall be cased.

Section 21. Where the strata are not safe every shaft shall be securely cased, lined or otherwise made secure.

Rules to be observed in mines.

Section 22. The following rules shall be observed, as far as practicable, in every shaft to which this act applies.

First. After each and every blast the chargeman must see that all loose material is swept down from the timbers before the workmen descend to their work.

Second. After a suspension of work, and also after firing a blast in a shaft where explosive gases are evolved, the person in charge must have the said shaft examined and tested with a safety lamp before the workmen are allowed to descend.

Third. Not more than four persons shall be lowered or hoisted in any shaft on a bucket at the same time, and no person shall ride on a loaded bucket.

Fourth. Whenever persons are employed on platforms in shafts the person in charge must see that the said platforms are properly and safely constructed.

Fifth. While shafts are being sunk all blasts therein must be exploded by an electric battery.

Sixth. Every person who fails to comply with or who violates the provisions of this article shall be guilty of an offense against this act.

## ARTICLE V

### Boilers and Connections, Machinery, &c.

Section 1. All boilers used for generating steam in and about mines and collieries shall be kept in good order, and the owner, operator or superintendent shall have them examined and inspected by a qualified person as often as once in six months, and oftener if needed. The result of such examination, under oath, shall be certified in writing to the inspector for the district within thirty (30) days thereafter.

Boilers shall be kept in good order and shall be examined, etc.

Section 2. It shall not be lawful to place any boiler or boilers, for the purpose of generating steam, under or nearer than one hundred (100) feet to any coal breaker or other structure in which persons are employed in the preparation of coal: Provided, That this section shall not apply to boilers or breakers already erected.

Boilers shall not be nearer the breaker than 100 feet.

Proviso.

Section 3. Each nest of boilers shall be provided with a safety valve of sufficient area for the steam to escape and with weights or springs properly adjusted.

Safety valve for boilers.

Section 4. Every boiler house shall be provided with a steam gauge properly connected with the boilers, to indicate the steam pressure, and another steam gauge shall be attached to the steam pipe in the engine house and placed in such position that the engineer or fireman can readily examine them and see what pressure is carried. Such steam gauges shall be kept in good order, tested and adjusted as often as once in every six months and their condition reported to the inspector in the same manner as the report of boiler inspection.

Steam gauges.

Gauges must be tested every six months and reported to inspector.

Section 5. All machinery used in or about the mines and collieries, and especially in breakers, such as engines, rollers, wheels screens, shafting and belting, shall be protected by covering or railing so as to pre-

All machinery must be protected or covered.

Stairs, etc., shall have guard rail.

Temporary removal of fence.

Engineer shall be competent and over eighteen years old.

Signal apparatus on breaker.

Oiling machinery.

Loitering around or interfering with machinery prohibited.

Offense against this act.

vent persons from inadvertently walking against or falling upon the same. The sides of stairs, trestles and dangerous plank walks in and around the collieries shall be provided with hand and guard railing to prevent persons from falling over their sides. This section shall not forbid the temporary removal of a fence, guard rail or covering for the purpose of repairs or other operations, if proper precautions are used, and the fence, guard rail or covering is replaced immediately thereafter.

Section 6. A sober and competent person, not under eighteen (18) years of age, shall be engaged to run the breaker engine and he shall attend to said engine while the machinery is in motion.

Section 7. A signal apparatus shall be established at important points in every breaker so that in case of an accident the engineer can be promptly notified to stop the machinery.

Section 8. No person under fifteen (15) years of age shall be appointed to oil the machinery, and no person shall oil dangerous parts of such machinery while it is in motion.

Section 9. No person shall play with, loiter around or interfere with any machinery in or about any mine or colliery.

Section 10. Failure to comply with the provisions of this article shall be deemed an offense against this act.

## ARTICLE VI

### Wash Houses

Wash house shall be provided at request of twenty or more miners.

How wash house shall be kept and supplied.

Section 1. It shall be the duty of the owner, operator or superintendent of each mine or colliery, at the request in writing of twenty or more men employed in any of the mines, to provide a suitable building, not an engine or boiler house, which shall be convenient to the principal entrance of such mine, for the use of the persons employed therein for the purpose of washing themselves and changing their clothes when entering the mine and returning therefrom. The said building shall be maintained in good order, be properly lighted and heated, and supplied with pure cold and warm water, and shall be provided with facilities for persons to wash. If any person or persons shall

neglect or fail to comply with the provisions of this article, or maliciously injure or destroy, or cause to be injured or destroyed, the said building, or any part thereof, or any of the appliances or fittings used for supplying light, heat and water therein, or doing any act tending to the injury or destruction thereof, he or they shall be deemed guilty of an offense against this act.

Penalty for failure to comply with this provision.

## ARTICLE VII

### Ambulances and Stretchers

Section 1. The owner, operator or superintendent of every mine or colliery, except as hereinafter provided, shall provide and keep at such mine or colliery an ambulance and also at least two (2) stretchers, for the purpose of conveying to their places of abode, any person or persons who may be injured while in the discharge of his or their work at such mine or colliery.

Owner shall keep ambulance and stretchers at mine.

Section 2. The said ambulance shall be constructed upon good, substantial and easy springs. It shall be covered and closed and shall have windows on the sides or ends. It shall be of sufficient size to convey at least two (2) injured persons with two (2) attendants at one time, and shall be provided with spring mattresses or other comfortable bedding to be placed on rolled frames, together with sufficient covering and protection for convenient movement of the injured. It shall also be provided with seats for the attendants. The stretchers shall be constructed of such material and in such manner as to afford the greatest ease and comfort in the carriage of the injured person.

Construction of ambulance.

Construction of stretchers.

Section 3. Whenever any person or persons employed in or about a mine or colliery shall receive such injury by accident or otherwise, while so employed, as would render him or them unable to walk to his or their place of abode, the owner, operator or superintendent of such mine or colliery shall immediately cause such person or persons to be removed to his or their place of abode or to a hospital as the case may require.

Person injured shall be removed to his home or to hospital.

Section 4. It is provided, however, that the owner, operator or superintendent of any mine or colliery shall be excepted from the requirements of an ambu-

When ambulance need not be provided.



lance, as aforesaid, if the places of abode of all the workmen at such mine or colliery be within a radius of a half mile from the principal entrance to such mine.

When one ambulance may supply two collieries.

Section 5. It is provided further, that where two or more mines or collieries are located within one mile of each other, or the ambulance is located within one mile of each colliery, but one ambulance, as aforesaid, shall be required, if the said mines or collieries have ready and quick means of communication, one with the other, by telegraph or telephone.

If less than 20 persons employed no ambulance required.

Section 6. An ambulance, as aforesaid, shall not be required at any mine or colliery at which less than twenty (20) persons are employed.

When railway may be used instead of ambulance.

Section 7. In case the distance from any mine or colliery to the place of abode of the person injured, is such as to permit his conveyance to his home or to a hospital more quickly and conveniently by railway, such mode of conveyance shall be permitted, but in such case the conveyance must be under cover and the comfort of the injured person must be provided for.

## ARTICLE VIII

### Certified Mine Foremen

Mine foreman or assistant must have certificate.

Section 1. It shall not be lawful, neither shall it be permitted, for any person or persons to act as mine foreman or assistant mine foreman of any coal mine or colliery, unless they are registered as a holder of a certificate of qualification or service under this act.

Certificate shall be granted by Secretary of Internal Affairs after satisfactory examination by the Examiners.

Section 2. Certificates of qualification to mine foremen and assistant mine foremen shall be granted by the Secretary of Internal Affairs to every applicant who may be reported by the examiners, as hereinafter provided, as having passed a satisfactory examination and as having given satisfactory evidence of at least five years' practical experience as a miner, and of good conduct, capability and sobriety.

Experience.

Form and record of certificates.

The certificate shall be in manner and form as shall be prescribed by the Secretary of Internal Affairs, and a record of all certificates issued shall be kept in his department.

Board of Examiners in each district.

Section 3. For the purpose of examination of candidates for such certificates, a board of examiners shall



be appointed in each of the inspection districts provided for by this act. The said board shall consist of the district inspector of mines, two (2) practical miners and one owner, operator or superintendent of a mine. The said inspector shall act ex-officio, and the said engineer and owner, operator or superintendent shall be appointed in like manner and at the same time as the boards of examiners for candidates for mine inspectorship under this act are now appointed. The said board shall act as such for the period of one year from the date of their appointment. Meetings of the board may be held at any time, and they may make such rules and conduct such examinations as in their judgment may seem proper for the purpose of such examinations. The said board shall report their action to the Secretary of Internal Affairs, and at least three (3) of the members thereof shall certify to the qualification of each candidate who has passed such examination. The traveling expenses of the members of such board to and from their place of meeting, together with the sum of five dollars per day each to the said two (2) practical miners and owner, operator or superintendent, members of each board, for each day they are actually engaged therein, not exceeding ten (10) days in all, during the year, shall be paid by the Commonwealth on an order of the Auditor General drawn on the State Treasurer upon the certificate of the mine inspector, member of such board.

Who shall serve  
on such board.

Term of board.

Meetings and  
rules.

Report.

Compensation.

How paid.

Section 4. Certificates of qualification to mine foremen and assistant mine foremen shall be granted by the Secretary of Internal Affairs to every applicant who may be reported by the examiners, as heretofore provided, as having passed a satisfactory examination and as having given satisfactory evidence of at least five (5) years' practical experience as a miner, and of good conduct, capability and sobriety. The certificate shall be in manner and form as shall be prescribed by the Secretary of Internal Affairs, and a record of all certificates issued shall be kept in the department. Certificates of qualification and certificates of service shall contain the full name, age and place of birth of the applicant, as also the length and nature of his previous service in or about the mines.

Certificates of  
mine foremen.

Contents of certificate.

Fees for certificate.

Section 5. Before certificates as aforesaid shall be granted applicants for same shall pay to the Secretary of Internal Affairs the following fee, namely:

For examination, one dollar; for registration of certificate, one dollar, for certificate, one dollar. All fees so received shall be covered into the treasury of the Commonwealth.

Penalty for operating mine without a foreman.

Section 6. No mines shall be operated for a longer period than thirty days without the supervision of a mine foreman. In case any mine is worked a longer period than thirty (30) days without such certified mine foreman, the owner, operator or superintendent thereof shall be subject to a penalty of twenty dollars per day for each day over the said thirty (30) days during which the said mine is operated.

When copy of certificate may issue.

Section 7. In case of the loss or destruction of a certificate the Secretary of Internal Affairs may supply a copy thereof to the person losing the same upon the payment of the sum of fifty (50) cents: Provided, It shall be shown to the satisfaction of the Secretary that the loss has actually occurred.

Forgery of a certificate or making a false statement in same shall be a misdemeanor.

Section 8. If any person or persons shall forge or counterfeit a certificate or knowingly make or cause to be made any false statement in any certificate under this act, or in any official copy of the same, or shall urge others to do so, or shall utter or use any such forged or false certificate, or unofficial copy thereof, or shall make, give, utter, produce or make use of any false declaration, representation or statement in any such certificate of copy thereof, or any document containing the same, he or they shall be guilty of a misdemeanor, and upon conviction thereof, shall be fined two hundred dollars, or imprisoned for a term not exceeding one (1) year, or both, at the discretion of the court trying the case.

Penalty.

Fire boss must have five years' experience, etc.

Section 9. And no person shall be permitted to act as fire boss in any coal mine or colliery, unless he has had five (5) years' practical experience in mines as a miner, three (3) of which he shall have had as a miner in mines wherein noxious and explosive gases are evolved, and the said fire boss shall certify to the same before entering upon his duties, before an alderman, justice of the peace or other person authorized to administer oaths, and a copy of said deposition shall

He shall certify to experience.

be filed with the district inspector of mines wherein said person is employed.

## ARTICLE IX

### Employment of Boys and Females

Section 1. No boy under the age of fourteen (14) years, and no woman or girl of any age, shall be employed or permitted to be in any mine for the purpose of employment therein. Nor shall a boy under the age of twelve years or a woman or girl of any age, be employed or permitted to be in or about the outside structures or workings of a colliery for the purpose of employment, but it is provided, however, that this prohibition shall not affect the employment of a boy or female of suitable age in an office or in the performance of clerical work at a colliery.

No boy under 14 years and no female shall be employed in mines.

Shall not apply to clerical work.

Section 2. When an employer is in doubt as to the age of any boy or youth applying for employment in or about a mine or colliery, he shall demand and receive proof of the said lawful employment age of such boy or youth, by certificate from the parent or guardian, before said boy or youth shall be employed.

How age shall be determined.

Section 3. If any person or persons contravene or fail to comply with the provisions of this act in respect to the employment of boys, young male persons or females, or if he or they shall connive with or permit others to contravene or fail to comply with said provisions, or if a parent or guardian of a boy or young male person make or give a false certificate of the age of such boy or young male person, or knowingly do or perform any other act for the purpose of securing employment for a boy or young male person below the lawful employment age and in contravention of the provisions of this act, he or they shall be guilty of an offense against this act.

Penalty.

## ARTICLE X

### Ventilation

Section 1. The owner, operator or superintendent of every mine shall provide and maintain a constant and adequate supply of pure air for the same, as hereinafter provided.

Pure air shall be provided in mines

Use of furnaces prohibited in certain mines.

Section 2. It shall not be lawful to use a furnace for the purpose of ventilating any mine wherein explosive gases are generated.

Minimum quantity of air to be produced.

Section 3. The minimum quantity of air thus produced, shall not be less than two hundred (200) cubic feet per minute for each and every person employed in any mine, and as much more as the circumstances may require.

Ventilating currents, how distributed.

Section 4. The ventilating currents shall be conducted and circulated to and along the face of each and every working place throughout the entire mine, in sufficient quantities to dilute, render harmless and sweep away smoke and noxious or dangerous gases, to such an extent that all working places and traveling roads shall be in a safe and fit state to work and travel therein.

Abandoned parts of mine in operation shall be kept free of gas.

Section 5. All worked-out or abandoned parts of a mine in operation, so far as practicable, shall be kept free of dangerous bodies of gases or water, and if found impracticable to keep the entire mine free from an accumulation of gases or water, the mine inspector must be immediately notified.

Mine shall be divided into districts.

Section 6. Every mine employing more than seventy-five (75) persons must be divided into two or more districts. Each district shall be provided with a separate split of pure air and the ventilation shall be so arranged, that not more than seventy-five persons shall be employed at the same time in any one current or split of air.

Not more than 75 persons shall have the same current of pure air.

When inlet and return air passages shall be separated.

The inlet and return air passages for any particular district must be separated by a pillar of coal or stone, if the thickness and dip of the vein will permit, except where it is necessary to cut through said dividing pillar for the purposes of ventilation, traffic or drainage.

Area of air passages.

Section 7. All air passages shall be of sufficient area to allow the free passage of not less than two hundred (200) cubic feet of air per minute for every person working therein; and in no case, in mines generating explosive gases, shall the velocity exceed four hundred and fifty (450) lineal feet per minute, in any opening through which the air currents pass, if gauze safety lamps are used, except in the main inlet or outlet air ways.

Velocity.



Section 8. All cross-cuts connecting the main inlet and outlet air passages of every district, when it becomes necessary to close them permanently, shall be substantially closed with brick or other suitable building material, laid in mortar or cement whenever practicable, but in no case shall said air stoppings be constructed of plank except for temporary purposes.

Cross-cuts to be substantially closed.

Section 9. All doors used in assisting or in any way affecting the ventilation shall be so hung and adjusted that they will close automatically.

Doors must close automatically.

Section 10. All main doors shall have an attendant whose constant duty it shall be to open them for transportation and travel and prevent them from standing open longer than is necessary for persons or cars to pass through.

Main doors must have an attendant.

Section 11. All main doors shall be so placed that when one door is open, another, which has the same effect upon the same current, shall be and remain closed and thus prevent any temporary stoppage of the air current.

How main doors shall be placed.

Section 12. An extra main door shall be so placed and kept standing open, as to be out of reach of accident, and so fixed that it can be at once closed in the event of an accident to the doors in use.

Extra main door.

Section 13. The frame work of such main doors shall be substantially secured in stone or brick, laid in mortar or cement unless otherwise permitted in writing by the inspector.

Frame work of main doors.

Section 14. All permanent air bridges shall be substantially built of such material and such strength as the circumstances may require.

Permanent air bridges, how built.

Section 15. The quantities of air in circulation shall be ascertained with an anemometer or other efficient instrument; such measurements shall be made by the inside foreman or his assistant once a week at the inlet and outlet airways, also at or near the face of each gangway and at the nearest cross-heading to the face of each gangway and at the nearest cross-heading to the face of the inside and outside chamber or breast where men are employed, and the heading shall not be driven more than sixty (60) feet from the face of each chamber or breast and shall be entered in the colliery report book.

Air measurements.

By whom made.

Headings shall not be driven more than 60 feet.



Report of air measurements to be sent to inspectors, also number employed in each district.

Section 16. A report of these air measurements shall be sent to the inspector before the twelfth day of each month, for the preceding month, together with a statement of the number of persons employed in each district.

Ventilators must have recording instruments.

Section 17. All ventilators used at mines shall be provided with recording instruments by which the speed of the ventilators or the ventilating pressure shall be registered for each hour, and such data shall be preserved at the colliery for future reference, for a period of three months.

Penalty.

Section 18. Any person or persons who shall neglect or fail to comply with the provisions of this article, or who shall make any false report in regard to air measurements, shall be guilty of an offense against this act.

## ARTICLE XI

### Props and Timbers

Props and timbers must be furnished workmen.

Section 1. It shall be the duty of the owner, operator, superintendent or mine foreman of every mine to furnish to the miners all props, ties, rails and timbers necessary for the safe mining of coal and for the protection of the lives of the workmen. Such props, ties, rails and timbers shall be suitably prepared and shall be delivered to the workmen as near to their working places as they can be conveyed in ordinary mine cars, free of charge.

Workman shall notify mine foreman of timbers needed.

Section 2. Every workman in want of props, ties, rails or timbers shall notify the mine foreman or his assistant of the fact at least one day in advance, giving the length of the props or timber required; and in case of danger from loose roof or sides, he shall not continue to cut or load coal until the said props and timber have been properly furnished and the place made secure.

Work shall stop in certain cases.

Failure to comply shall be deemed an offense.

Section 3. A failure to comply with the provisions of this article shall be deemed an offense against this act, and shall be taken to be negligence per se on the part of the owner, operator, superintendent or mine foreman, as the case may be, of such mine, in action for the recovery of damages for accidents resulting from the insufficient propping of such mine, through failure to furnish the necessary props or timbers.

## ARTICLE XII

## General Rules

The following general rules shall be observed in every mine to which this act applies:

Rule 1. The owner, operator or superintendent of a mine or colliery shall use every precaution to ensure the safety of the workmen in all cases, whether provided for in this act or not, and he shall place the underground workings thereof, and all that is related to the same, under the charge and daily supervision of a competent person who shall be called "mine foreman."

Must have mine foreman.

Rule 2. Whenever a mine foreman cannot personally carry out the provisions of this act so far as they pertain to him, the owner, operator or superintendent shall authorize him to employ a sufficient number of competent persons to act as his assistants, who shall be subject to his orders.

Assistant mine foreman.

Rule 3. The mine foreman shall have charge of all matters pertaining to ventilation, and the speed of the ventilators shall be particularly under his charge and direction; and any superintendent who shall cause the mine foreman to disregard the provisions of this act shall be amenable in the same manner as the mine foreman.

Ventilation.

When superintendent shall be amenable.

Rule 4. All accessible parts of an abandoned portion of a mine in which explosive gases have been found, shall be carefully examined by the mine foreman or his assistants at least once a week, and all danger found existing therein shall be immediately removed. A report of said examination shall be recorded in a book kept at the colliery for that purpose and signed by the person making the same.

Abandoned portions of mine shall be examined.

Report shall be kept.

Rule 5. In mines generating explosive gases, the mine foreman or his assistant shall make a careful examination every morning of all working places and traveling roads and all other places which might endanger the safety of the workmen, before the workmen shall enter the mine, and such examination shall be made with a safety lamp within three (3) hours at most, before time for commencing work, and a workman shall not enter the mine or his working place until the said mine or part thereof and working place

Examination of mines generating gases.

Report shall be kept.

are reported to be safe. Every report shall be recorded without delay in a book which shall be kept at the colliery for the purpose and shall be signed by the person making the examination.

Proof of examination must be marked on face.

Rule 6. The person who makes said examination shall establish proof of the same by marking plainly the date thereof at the face of each working place and all other places examined.

Stations to be established.

Rule 7. A station or stations shall be established at the entrance to each mine or different parts of each mine, as the case may require, and a workman shall not pass beyond any such station until the mine or part of the mine beyond the same has been inspected and reported to be safe. It shall be the duty of the fire boss to remain at the danger station until relieved by some person authorized by himself or the mine foreman, who shall stand guard until said mine or part of mine shall be reported safe, and he shall not let any person pass without permission from the fire boss.

Fire boss shall have charge of danger stations.

No one shall pass until mine is reported safe.

Rule 8. If at any time it is found by the person for the time being in charge of the mine or any part thereof, that by reason of noxious gases prevailing in such mine or such part thereof, or of any cause whatever the mine or the said part is dangerous, every precaution shall be used to ensure the safety of the workmen; and every workman, except such persons as may be required to remove the danger, shall be withdrawn from the mine, or such part thereof as is so found dangerous, until the said mine or said part thereof is examined by a competent person and reported by him to be safe.

When noxious gases are found all workmen to be withdrawn until reported safe.

Only safety lamps to be used in certain mines.

Rule 9. In every working approaching any place where there is likely to be accumulation of explosive gases, or in any working in which danger is imminent from explosive gases, no light or fire other than a locked safety lamp shall be allowed or used. Whenever safety lamps are required in any mine they shall be the property of the owner of said mine, and a competent person, who shall be appointed for the purpose, shall examine every safety lamp immediately before it is taken into the workings for use, and ascertain it to be clean, safe and securely locked, and safety lamps shall not be used until they have been so examined and found safe, clean and securely

locked, unless permission be first given by the mine foreman to have the lamps used unlocked.

Rule 10. No one, except a duly authorized person, shall have in his possession a key or any other contrivance for the purpose of unlocking any safety lamp in any mine where locked lamps are used. No lucifer matches or any other apparatus for striking light shall be taken into said mine or parts thereof.

Keys for safety lamps.

Rule 11. No blast shall be fired in any mine where locked safety lamps are used except by permission of the mine foreman or his assistants, and before a blast is fired, the person in charge must examine the place and adjoining places and satisfy himself that it is safe to fire such blast before such permission is given.

Firing of blasts.

Rule 12. The mine foreman or his assistant shall visit and examine every working place in the mine at least once every alternate day, while the men of such place are or should be at work, and shall direct that each and every working place is properly secured by props or timbers, and that safety in all respects is assured by directing that all loose coal or rock shall be pulled down or secured, and that no person shall be permitted to work in an unsafe place unless it be for the purpose of making it secure.

Mine foreman shall visit mine.

Rule 13. The mine foreman, or some other competent person or persons to be designated by him, shall examine at least once every day all slopes, shafts, main roads, traveling ways, signal apparatus, pulleys and timbering and see that they are in safe and efficient working condition.

Mine foreman shall examine slopes, etc.

Rule 14. Any person having charge of a working place in any mine shall keep the roof and sides thereof properly secured by timber or otherwise so as to prevent such roof and sides from falling, and he shall not do any work or permit any work to be done under loose or dangerous material except for the purpose of securing the same.

Roofs and sides must be properly secured.

Rule 15. Whenever a place is likely to contain a dangerous accumulation of water, the working approaching such place shall not exceed twelve (12) feet in width and there shall be constantly kept at a distance of not less than twenty (20) feet in advance, at least one (1) bore hole near the center of the working and sufficient flank bore holes on each side.

Accumulation of water.



Riding on loaded cars prohibited.

Rule 16. No person shall ride upon or against any loaded car, cage or gun-boat in any shaft, slope or plane in or about a mine or colliery.

Number of persons to be hoisted or lowered at one time.

Rule 17. Not more than ten (10) persons shall be hoisted or lowered at any one time in any shaft or slope, and whenever five persons shall arrive at the bottom of any shaft or slope in which persons are regularly hoisted or lowered they shall be furnished with an empty car or cage and be hoisted, except however, in mines where there is provided a traveling way having an average pitch of fifteen (15) degrees or less and not more than one thousand (1,000) feet in length. This, however, shall not prohibit the hoisting or lowering of twenty (20) persons at one time on slopes where two (2) or more loaded cars are regularly hoisted: Provided, That not less than thirty (30) workmen working therein, make such request in writing, to the inspector of the district, and if, in his judgment, the hoisting appliances in every respect are of sufficient strength, he may comply with the request of the workmen.

Twenty persons may be hoisted or lowered in mine where two cars are used, if thirty workmen make request.

May reduce the number of persons to be hoisted or lowered.

Provided, That in any coal mine or colliery where the hoisting appliances are not of sufficient strength to hoist or lower the number of persons named, he shall have the power to reduce the number of persons to be hoisted or lowered.

Qualifications of engineer.

Rule 18. An engineer placed in charge of an engine whereby persons are hoisted or lowered in any mine, shall be a sober and competent person of not less than twenty-one (21) years of age.

How engineer shall work engine.

Rule 19. Every engineer shall work his engine slowly and with great care when any person is being lowered or hoisted in a shaft or slope and no one shall interfere with or intimidate him while in the discharge of his duties.

Duty of engineer in charge of hoisting apparatus.

Rule 20. An engineer who has charge of the hoisting machinery by which persons are lowered or hoisted in a mine, shall be in constant attendance for that purpose during the whole time any person or persons are below ground, and he shall not allow any person or persons, except such as may be deputed by the owner, operator or superintendent, to handle or meddle with the engine under his charge or any part of its machinery.



Rule 21. When any person is about to descend or ascend a shaft or slope, the headman or footman, as the case may be, shall inform the engineer by signal or otherwise of the fact, and the engineer shall return a signal before moving or starting the engine. In the absence of a headman or footman the person or persons about to descend or ascend shall give and receive the signals in the same manner.

Signals for ascending or descending.

Rule 22. The owner, operator or superintendent of a colliery shall place a competent person to be called "outside foreman," in charge of the breaker and the outside work of such colliery, who shall direct and as far as practicable, see that the provisions of this act are complied with in respect to the breakers, outside machinery, ropes, cages and all other things pertaining to the outside work, unless otherwise provided for in this act.

Outside foreman.

Rule 23. In all coal breakers where the coal dust is so dense as to be injurious to the health of persons employed therein, the owner, operator or superintendent of said breaker shall, upon the request of the inspector, immediately adopt measures for the removal of the dust as far as practicable.

Dust in breaker.

Rule 24. Any miner or other workman who shall discover anything wrong with the ventilating current or with the condition of the roof, side, timber or roadway, or with any other part of the mine in general, such as would lead him to suspect danger to himself or his fellow workmen or to the property of his employer, shall immediately report the same to the mine foreman or other person, for the time being in charge of that portion of the mine.

Ventilating current or roof, etc., out of order must be reported to mine foreman.

Rule 25. Any person or persons who shall knowingly or wilfully damage, or without proper authority, remove or render useless any fencing, means of signaling, apparatus, instrument or machine, or shall throw open or obstruct any airway, or open a ventilating door and not have the same closed, or enter a place in or about a mine against caution, or carry fire, open lights or matches in places where safety lamps are used, or handle without proper authority, or disturb any machinery or cars, or do any other act or thing whereby the lives or health of persons or the security of the property in or about a mine or colliery

Wilful damage to any mine or equipment.

Carrying fire or open lights.

are endangered, shall be guilty of an offense against this act.

**Care of explosives.**

Rule 26. Gunpowder or any other explosive shall not be stored in a mine, and a workman shall not have at any time in any one place, more than one keg or box containing twenty-five (25) pounds, unless more is necessary for a person to accomplish one day's work.

**How explosives shall be kept.**

Rule 27. Every person who has gunpowder or other explosive in a mine, shall keep it in a wooden or metallic box securely locked, and such box shall be kept at least ten (10) feet from the tracks in all cases where room at such a distance is available.

**Manner of handling explosives.**

Rule 28. Whenever a workman shall open a box containing explosive or while in any manner handling the same, he shall first place his lamp not less than five (5) feet from such explosive and in such a position that the air current cannot convey sparks to it, and a workman shall not approach nearer than five (5) feet to an open box containing powder, with a lamp, lighted pipe or any other thing containing fire.

**Storage, etc., must be in accordance with special rules by manufacturers of explosives.**

Rule 29. When high explosives other than gun powder are used in any mine, the manner of storing, keeping, moving, charging and firing or in any manner using such explosives, shall be in accordance with special rules as furnished by the manufacturers of the same. The said rules shall be endorsed with his or their official signature and shall be approved by the owner, operator or superintendent of the mine in which such explosives are used.

**And approved by owner.**

**Manner of charging holes for blasting.**

Rule 30. In charging holes for blasting in slate or rock in any mine, no iron or steel-pointed needle shall be used, and a tight cartridge shall not be rammed into a hole in coal, slate or rock with an iron or steel tamping bar, unless the end of the tamping bar is tipped with at least six (6) inches of copper or other soft metal.

**Tamping bar.**

**When a charge misses fire.**

Rule 31. A charge of powder or any other explosive in slate or rock which has missed fire shall not be withdrawn or the hole reopened.

**Must not shorten the match, etc.**

Rule 32. A miner or other person who is about to explode a blast by the use of patent or other squibs or matches, shall not shorten the match, nor saturate it with mineral oil, nor turn it down when placed in the hole, nor ignite it except at its extreme end, nor do

anything tending to shorten the time the match will burn.

Rule 33. When a workman is about to fire a blast he shall be careful to notify all persons who may be in danger therefrom, and shall give sufficient alarm before and after igniting the match so that any person or persons who may be approaching shall be warned of the danger.

Before firing blast all persons must be notified.

Rule 34. Before commencing work and also after the firing of every blast, the miner working a breast or any other place in a mine, shall enter such breast or place to examine and ascertain its condition, and his laborer or assistant shall not go to the face of such breast or place until the miner has examined the same and found it to be safe.

Must examine after each blast.

Rule 35. No person shall be employed to blast coal or rock unless the mine foreman is satisfied that such person is qualified, by experience and judgment, to perform the work with ordinary safety.

Blaster must be qualified to do such work.

Rule 36. A person who is not a practical miner shall not charge or fire a blast in the absence of an experienced miner, unless he has given satisfactory evidence of his ability to do so with safety, and has obtained permission from the mine foreman or person in charge.

Inexperienced miners shall not fire a blast.

Rule 37. An accumulation of gas in mines shall not be removed by brushing where it is practicable to remove it by brattice.

Removal of gas.

Rule 38. When gas is ignited by blast or otherwise, the person igniting the same shall immediately extinguish it, if possible, and notify the mine foreman or his assistant of the fact, and workmen must see that no gas blowers are left burning upon leaving their working places.

Ignited gas must be extinguished.

Rule 39. Every fireman in charge of a boiler or boilers for the generation of steam, shall keep a constant watch of the same. He shall see that the steam pressure does not at any time exceed the limit allowed by the outside foreman or superintendent. He shall frequently try the safety valve, and shall not increase the weight on the same. He shall maintain a proper depth of water in each boiler, and if anything should happen to prevent this, he shall report the same without delay to the foreman, for the time be-

Duties of fireman in charge of boilers.

ing in charge, and take such other action as may under the particular circumstances be necessary for the protection of life and preservation of property.

Headman and footman.

Rule 40. At every shaft or slope in which provision is made in this act for lowering and hoisting persons, a headman and footman shall be designated by the superintendent or foreman to be at their proper places from the time that persons begin to descend, until all the persons who may be at the bottom of said shaft or slope when quitting work shall be hoisted. Such headman and footman shall personally attend to the signals and see that the provisions of this act, in respect to lowering and hoisting persons in shafts or slopes, shall be complied with.

Duties.

Jumping on cars after signal prohibited.

Rule 41. No person, except the man giving the signal, shall jump on a car, cage or gun boat after the signal to start has been given, and if any person should enter a car, cage or gunboat in excess of the lawful number the headman or footman shall notify him of the fact and request him to get off, which request must be immediately complied with. Any violation of this rule must be reported promptly to the mine foreman.

Empty trip must be hoisted after engine has been idle one hour.

Rule 42. An empty trip shall be hoisted in any shaft or slope where the engine has been standing idle for an hour or more, before men are hoisted or lowered in said shafts or slopes, and no person or persons shall ascend any shaft or slope when working on the night turn, until one trip shall first be hoisted therein.

Construction of passage way.

Rule 43. Every passage-way used by persons in any mine and also used for transportation of coal or other material, shall be made of sufficient width to permit persons to pass moving cars with safety, but if found impracticable to make any passage-way of sufficient width, then holes of ample dimensions, and not more than one hundred and fifty (150) feet apart, shall be made on one side of said passage-way. The said passage-way and safety holes shall be kept free from obstructions and shall be well drained; the roof and sides of the same shall be made secure.

Safety holes.

Speed of locomotives.

Rule 44. When locomotives are used in any mine their speed shall not exceed six (6) miles per hour, and an efficient alarm shall be provided and attached to the front end of every train of cars pushed by a locomotive in any mine or part of a mine.



Rule 45. Locomotives propelled by steam, if using fire, shall not be used in any passage-way which is also used as an intake air-way to any mine or part of a mine where persons are employed, unless there be a sufficient quantity of air circulating therein to maintain a healthy atmosphere.

Locomotives using fire prohibited in certain passage-ways.

Rule 46. No person shall couple or uncouple loaded or empty cars while the same are in motion: Provided however, That this shall not apply to the top or bottom men of slopes, planes or shafts.

Coupling or uncoupling cars.

Rule 47. When cars are run on gravity roads by brakes or sprags, the runner shall only ride on the rear end of the last car, and when said cars are run by sprags, a space of not less than two (2) feet from the body of the car shall be made on one or both sides of the track, wherever it may be necessary for the runner to pass along the side of the moving car or cars, and said space or passage-way shall always be kept free from obstructions.

Cars on gravity roads run by brakes or sprags.

Passage-way of two feet shall be kept free.

Rule 48. No miner or laborer shall run cars out of any breast or chamber or on any gravity road unless he is a suitable person, employed by the mine foreman for that particular work; and no person shall be employed by any mine foreman to perform such work, under the age of sixteen (16) years.

Cars shall be run by suitable persons only.

Rule 49. Safety holes shall be made at the bottom of all slopes and planes and be kept free from obstruction to enable the footman to escape readily in case of danger.

Safety holes at bottom of slopes, etc.

Rule 50. Safety blocks or some other device for the purpose of preventing cars from falling into a shaft or running away on a slope or plane, shall be placed at or near the head of every shaft, slope or plane, and said safety blocks or other device must be maintained in good working order.

Safety blocks.

Rule 51. No person shall travel on any gravity train while cars are being hoisted or lowered thereon. Whenever ten (10) persons arrive at the bottom or top of any plane on which it is necessary for men to travel, traffic thereon shall be suspended for a period of time long enough to permit them to reach the top or bottom of said plane.

Travel on gravity train prohibited.

When traffic shall be suspended on plane.

Rule 52. No mine cars shall be used in any mine unless the bumpers are of sufficient length and width to keep the bodies of said cars separated by not less

Bumpers on mine cars.



than twelve (12) inches when the cars stand on a straight level road and the bumpers touch each other.

Coal breakers  
shall be heated.

Rule 53. It shall be the duty of the owner, operator or superintendent of any or all coal breakers, to have them properly heated in order to prevent injury to the health of persons employed therein.

Abstract of rules  
shall be posted up.

Rule 54. For the purpose of making known the rules and the provisions of this act to all persons employed in or about such mine or colliery to which this act applies, an abstract of the act and rules shall be posted up in legible characters in some conspicuous place or places at or near the mine or colliery, where they may be conveniently read by the persons employed, and so often as the same become obliterated or destroyed the owner, operator or superintendent shall cause them to be renewed with all reasonable dispatch. Any person who pulls down, injures or defaces such abstract of the act or rules when posted up in pursuance of the provisions of this act, shall be guilty of an offense against this act.

Penalty for de-  
stroying rules.

Cutting of props  
and timbers pro-  
hibited.

Rule 55. No person or persons working in any coal mine or colliery shall cut any props or timbers while the same are in position to support the roof or sides. When it becomes necessary to remove any of the said props or timbers for the purpose of mining coal that may be supported by the same, to dislodge any of the said props or timbers, it must be done by blasting.

Must be removed  
by blasting.

Who shall be em-  
ployed in mine  
evolving gases.

Rule 56. It shall not be lawful for any mine foreman or superintendent of any mine or colliery to employ any person who is not competent to understand the regulations of any mine evolving explosive gases: Provided, That this rule will not apply to a section of mine free from the said explosive gases.

Exceptions.

Penalty for not  
giving car to men.

Rule 57. Any superintendent or mine foreman who prevents the footman from giving an empty car or cage to the number of men designated in a former rule, shall, upon information by any person engaged in the mines, given the mine inspector, be fined the sum of fifty dollars for each offense.

Penalty for failure  
to comply with  
foregoing rules.

Rule 58. Every person who fails to comply with any of the foregoing rules or any of the provisions of this article, shall be guilty of an offense against this act.

## ARTICLE XIII

## Inquests

Section 1. Whenever loss of life to a miner or other employe occurs in or about a mine or colliery, notice thereof shall be given promptly to the inspector of mines for the district in which the accident occurred, by the mine foreman or outside foreman or other person having immediate charge of the work at the time of the accident; and when death results from personal injury such notice shall be given promptly after the knowledge of death comes to the said foreman or person in charge.

Inspector to be promptly notified of loss of life.

Section 2. Whenever loss of life occurs or whenever the lives of persons employed in a mine or at a colliery are in danger from any accident, the inspector of mines shall visit the scene of the accident as soon as possible thereafter and offer such suggestions, as in his judgment shall be necessary, to protect the lives and secure the safety of the persons employed. In case of death from such accident, and after examination he finds it necessary that a coroner's inquest shall be held, he shall notify the coroner to hold such inquest without delay, and if no such inquest be held by the coroner within twenty-four (24) hours after such notice, the inspector shall institute a further and fuller examination of such accident, and for this purpose he shall have power to compel the attendance of witnesses at such examination and to administer oaths and affirmations to persons testifying thereat. The inspector shall make a record of all such investigations and accidents, which record shall be preserved in his office. The costs of such investigation shall be paid by the county in which the accident occurred in like manner as costs of inquests held by coroners or justices of the peace are now paid.

Inspector shall visit scene of accident.

Shall notify coroner.

If coroner fail to hold inquest inspector shall investigate.

Record shall be kept.

Costs of investigation.

Section 3. An inquest held by the coroner upon the body of a person killed by explosion or other accident, shall be adjourned by the coroner if the inspector of mines be not present to watch the proceedings, and the coroner in such case shall notify the inspector, in writing, of such adjourned inquest, and the time and place of holding the same, at least three (3) days previous thereto.

Coroner shall adjourn inquest if inspector is not present.

Notice of inquest.

Section 4. Due notice of an intended inquest to be held by the coroner, shall be given by the coroner to the inspector, and at any such inquest the inspector shall have the right to examine witnesses.

If accident occur from neglect coroner shall notify inspector.

Section 5. If, at any inquest held over the body or bodies of persons whose death was caused by an accident in or about a mine or colliery, the inspector be not present, and it is shown by the evidence given at the inquest that the accident was caused by neglect or by any defect in or about the mine or colliery, which in the judgment of the jury, requires a remedy, the coroner shall send notice in writing to said inspector of such neglect or default.

Qualifications of jurors.

Section 6. No person who is interested personally nor a person employed in the mine or a colliery in or at which loss of life has occurred by accident, shall be qualified to serve on a jury empaneled on the inquest, and a constable or other officer shall not summon such a person so disqualified as juror, but the coroner shall empanel a majority of the jury from miners who are qualified to judge of the nature of the accident; every person who fails to comply with the provisions of this article shall be guilty of an offense against this act.

## ARTICLE XIV

### Returns, Notices, Et Cetera

Notices of death, etc., shall be sent to inspector.

Section 1. Notices of death or serious injuries resulting from accidents in or about mines or collieries, shall be made to the inspector of mines, in writing, and shall specify the name, age and occupation of the person killed or injured, and also the nature and character of the accident and of the injury caused thereby.

When owner shall give notice to inspector.

Section 2. The owner, operator or superintendent of a mine or colliery, shall, without delay, give notice to the inspector of the district in which said mine or colliery is situated in any or all of the following cases:

New work commenced.

First. Where any working is commenced for the purpose of opening a new slope or mine to which this act applies.

Mine abandoned.

Second. Where any mine is abandoned or the workings thereof discontinued.

Work recommenced after abandonment.

Third. Where the working of any mine is recommenced after any abandonment or discontinuance for a period exceeding three months.

Fourth. Where any new coal breaker is completed and work commenced therein for the purpose of preparing coal for market.

When new breaker is completed.

Fifth. Where the pillars of a mine are to be removed or robbed.

Removal of pillars.

Sixth. Where a squeeze or crush or any other cause or change may seem to affect the safety of persons employed in any mine, or where fire occurs or a dangerous body of gas is found in any mine.

Squeeze, crush, fire or gas.

Section 3. On or before the first day of February in each year, the owner, operator or superintendent of every mine or colliery, shall send to the inspector of the district, a correct report specifying with respect to the year ending December thirty-first, previously, the name of the operator and officials of the mine, with his postoffice address; the quantity of coal mined, the amount of powder or other explosives consumed; the number of persons employed above and below ground in or about such colliery, classifying the persons so employed. The report shall be in such form as may be from time to time prescribed by the inspector of the district. Blank forms for said reports shall be furnished by the Commonwealth.

Annual report by owner.

Contents of report.

Form.

## ARTICLE XV

### Injunctions

Section 1. Upon application of the inspector of mines of the proper district, acting in behalf of the Commonwealth, any of the courts of law or equity having jurisdiction where the mine or colliery proceeded against is situated, whether any proceedings have or have not been taken, shall prohibit, by injunction or otherwise, the working of any mine or colliery in which any person is employed or is permitted to be for the purpose of working in contravention of the provisions of this act, and may award such costs in the matter of the injunction or other proceedings as the court may think just; but this section shall be without prejudice to any other remedy permitted by law for enforcing the provisions of this act. Written notice of the intention to apply for such injunction in respect to any mine or colliery, shall be made to the owner, operator or superintendent of such mine or col-

By injunction the court may stop work in mine.

Costs.

Written notice must be served on owner.



liery not less than twenty-four (24) hours before the application is made.

## ARTICLE XVI

### Arbitration

When arbitration may be had.

How notices shall be given.

Right of owner.

Costs.

Arbitrators, how chosen.

Decision shall be final.

Section 1. Whenever an inspector finds any mine or colliery or part thereof, or any matter, thing or practice connected with such mine, which in any respect thereof is not covered by or provided against by any provisions of this act or by any rule, to be dangerous or defective, or in his judgment tends to bodily injury to a person, he shall give notice thereof in writing to the owner, operator or superintendent of such mine or colliery, stating in such notice the particular matter or defect requiring remedy and may demand that the same be remedied; but the owner, operator or superintendent of said mine or colliery shall have the right to refer the demand of the inspector to a board of arbitration, and the matter shall then be arbitrated within forty-eight (48) hours of the time such complaint or demand be made. And the party against whom the award is given shall pay all cost attending the case. The said board of arbitration shall be composed of three (3) persons, one of whom shall be chosen by the inspector, one by the said owner, operator or superintendent and a third by the two thus selected. and the decision of a majority of such board shall be final and binding in the matter.

## ARTICLE XVII

### Penalties

On complaint of citizen the judge of quarter sessions court is authorized to hear and determine charges.

Section 1. Any judge of the court of quarter sessions of the peace of the county in which the mine or colliery, at which the offense, act or omission as hereinafter stated has occurred, is situated, is hereby authorized and required, upon the presentation to him of the affidavit of any citizen of the Commonwealth setting forth that the owner, operator or superintendent, or any other person employed in or about such mine or colliery had been negligently guilty of an offense against the provisions of this act, whereby a dangerous accident had resulted or might have re-



sulted to any person or persons employed in such mine or colliery, to issue a warrant to the sheriff of said county directing him to cause such person or persons to be arrested and brought before said judge, who shall hear and determine the guilt or innocence of the person or persons so charged; and if convicted he or they shall be sentenced to pay a fine not exceeding five hundred dollars, in all cases not otherwise provided for in this act, or an imprisonment in the county jail for a period not exceeding three (3) months, or both, at the discretion of the court: Provided, That any defendant may waive trial before a judge as herein provided and at any time, at or before the time of such trial, demand a trial by a jury in the court of quarter sessions, in which case he may enter into a recognizance before said judge with such surety or sureties and in such sum as said judge may approve, conditioned for his appearance at the next court of quarter sessions to answer the charge against him and abide the orders of the court in the premises, meanwhile to be of good behavior and keep the peace, or in default of such recognizance to be committed to the county jail to await such trial.

Judge of court shall issue warrant.

Penalty.

Defendant may waive trial before judge and demand trial by jury.

Recognizance.

Section 2. If any person shall feel himself aggrieved by such conviction and sentence before a judge as aforesaid, he may appeal therefrom subject to the following conditions, namely: The appellant shall, within seven days after the decree has been made, give notice to the prosecutor of his intention to appeal, and within the same time enter into a recognizance, with such surety or sureties and in such sum as shall be approved by said judge, conditioned to appear and try such appeal before the next court of quarter sessions of the peace and to abide the judgment of the court thereon and to pay all such costs and penalties as may be there awarded, and upon the compliance with such conditions the judge shall release the appellant from custody pending the appeal.

May appeal from conviction before judge.

Conditions of appeal.

Section 3. Nothing in this act shall prevent any person from being indicted or liable under any other act, to any higher penalty or punishment than is herein provided, and if the court before whom any such proceeding is had shall be of the opinion that proceedings ought to be taken against such persons under

Shall not be a bar to indictment.

any other act, or otherwise, he may adjourn the case to enable such proceedings to be taken.

Offenses under this act declared misdemeanors and penalty prescribed.

Section 4. All offenses under this act are declared to be misdemeanors and in default of payment of any penalty or cost by the party or parties sentenced to pay the same, he or they may be imprisoned for a period not exceeding three (3) months and not less than thirty (30) days.

Violation by mine inspector a misdemeanor.

Section 5. For any violation of duty by the mine inspector prescribed by this act, he shall be deemed guilty of a misdemeanor, and upon conviction, be sentenced to pay a fine of not more than three hundred dollars or be imprisoned for a period not exceeding three months, or either, or both, at the discretion of the court.

Penalty.

Disposition of fines.

Section 6. All fines imposed under this act shall be paid into the county treasury for the use of the county.

Conviction or acquittal shall not be evidence in action for damages.

Section 7. No conviction or acquittal under this act, in any complaint, shall be received in evidence upon the trial of any action for damages arising from the negligence of any owner, operator or superintendent or employe in any mine or colliery.

Right of action shall accrue for injury to person or property by violation of act by owners, etc.

Section 8. That for any injury to person or property occasioned by any violation of this act or any failure to comply with its provisions by any owner, operator, superintendent, mine foreman or fire boss of any coal mine or colliery, a right of action shall accrue to the party injured against said owner or operator for any direct damages he may have sustained thereby; and in case of loss of life by reason of such neglect or failure aforesaid, a right of action shall accrue to the widow and lineal heirs of the person whose life shall be lost, for like recovery of damages for the injury they shall have sustained.

May accrue to widow.

## ARTICLE XVIII

### Definition of Terms

Coal mine or colliery.

In this act, unless the context otherwise requires, the term "coal mine or colliery" includes every operation and work, both under and above ground, used or to be used for the purpose of mining and preparing coal.

The term "workings" includes all the excavated parts of a mine, those abandoned as well as the places actually at work. Workings.

The term "mine" includes all underground workings and excavations and shafts, tunnels and other ways and openings; also all such shafts, slopes, tunnels and other openings in course of being sunk or driven, together with all roads, appliances, machinery and materials connected with the same below the surface. Mine.

The term "shaft" means a vertical opening through the strata and which is or may be used for the purpose of ventilation or drainage or for hoisting men or material in connection with the mining of coal. Shaft.

The term "slope" means any inclined way or opening used for the same purpose as a shaft. Slope.

The term "breaker" means the structure containing the machinery used for the preparation of coal. Breaker.

The term "owners" and "operators" means any person or body corporate who is the immediate proprietor or lessee or occupier of any coal mine or colliery or any part thereof. The term "owner" does not include a person or body corporate who merely receives a royalty, rent or fine from a coal mine or colliery or part thereof, or is merely the proprietor of the mine subject to any lease, grant or license for the working or operating thereof, or is merely the owner of the soil and not interested in the minerals of the mine or any part thereof. But any "contractor" for the working of a mine or colliery or any part or district thereof shall be subject to this act as an operator or owner, in like manner as if he were the owner. Owners and operators.  
  
Who are not included in term "owner."  
  
Contractor shall be subject to this act as if he were owner.

The term "superintendent" means the person who shall have, on behalf of the owner, general supervision of one or more mines or collieries. Superintendent.

## ARTICLE XIX

All laws or parts of laws inconsistent or in conflict with the provisions of this act are hereby repealed. Repeal.

Approved—The 2d day of June, A. D. 1891.

ROBT. E. PATTISON.

## AN ACT

Equalizing and fixing the compensation and mileage of the members of the several boards appointed under the provisions of the act approved June second, one thousand eight hundred and ninety-one, to examine candidates for appointment as inspectors, foremen and fire bosses, respectively, in the anthracite coal mines, and providing for the employment and compensation and mileage of a clerk to each of said boards.

Compensation and mileage of boards of examiners of mine inspectors and foremen.

Section 1. Be it enacted, &c., That from and after the passage of this act the members of the several boards appointed under the provisions of the act approved June second, one thousand eight hundred and ninety-one, to examine candidates for appointment respectively as inspectors and foremen of anthracite coal mines, shall receive in lieu of all compensation, mileage, expenses, emoluments or allowances heretofore paid them, as follows: Six dollars per day for each day during which the said members shall be actually in attendance on the sessions of the board, and mileage at the rate of five cents for each mile actually traveled going from the home of the member to the place of meeting of the board and returning from said place to his said home by the shortest practicable railway route: Provided, That mileage shall be paid but once for each continuous session of the board, and by a continuous session shall be meant a session during the course of which no adjournment for a longer period than forty-eight hours shall take place.

Proviso.

Boards may employ clerk.

Section 4, act of June 2, 1891, repealed.

Section 2. Each of the boards enumerated or described in the first section of this act shall be and the same is hereby authorized to employ a clerk, whose compensation and mileage shall be the same as that of a member of the board. So much of section four of the act of June second, one thousand eight hundred and ninety-one, as authorizes the boards of examiners of candidates for inspectors of anthracite coal mines to engage the services of a clerk is hereby repealed, and all clerks hereafter appointed by the several boards hereinbefore mentioned shall be appointed under the provisions of this act.

Clerks shall be appointed hereafter under provisions of this act.

Members of board shall submit sworn statements of expenses to Auditor General.

Section 3. The members of the said boards shall, on the final adjournment of each session of their respective boards, submit to the Auditor General sworn



statements approved by the president or chairman of their respective boards, setting forth the number of days during which each member shall have been actually in attendance on the sessions of the board of which he is a member during said session, as well as the distance from the home of the member to the place of meeting of his board as aforesaid, by the nearest practicable railway route, and the number of miles actually traveled by him; and the clerks of said boards shall submit like statements, and the Auditor General shall, upon the receipt of such sworn statements draw his warrant upon the State Treasurer in favor of each of such members and clerks for such sums as shall appear to be properly due each.

Clerks shall submit like statements.

Section 4. All acts and parts of acts or supplements thereto in conflict herewith are hereby repealed.

Repeal.

Approved—The 26th day of June, A. D. 1895.

DANIEL H. HASTINGS.

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## AN ACT

To protect the lives and limbs of miners from the dangers resulting from incompetent miners working in the anthracite coal mines of this Commonwealth, and to provide for the examination of persons seeking employment as miners in the anthracite region, and to prevent the employment of incompetent persons as miners in anthracite coal mines, and providing penalties for a violation of the same.

Section 1. Be it enacted, &c., That hereafter no person whosoever shall be employed or engaged in the anthracite coal region of this Commonwealth, as a miner in any anthracite coal mine, without having obtained a certificate of competency and qualification so to do from the "Miners' Examining Board" of the proper district, and having been duly registered as herein provided.

Employment of miners without certificate of competency, etc., prohibited.

Section 2. That there shall be established in each of the eight inspection districts in the anthracite coal region, a board to be styled the "Miners' Examining

Miners' examining board established in each inspection district.



Number of members and how appointed.

Qualifications.

Term of office.

When they shall be appointed.

Compensation and necessary expenses.

Shall not be paid out of the State Treasury.

Organization of boards.

Sub-committees.

What the words "Examining Board" include.

Board shall take an oath of office.

How vacancies shall be filled.

Examining boards shall designate place of meeting of committees.

Board" of the ..... district, to consist of nine miners who shall be appointed in the same manner as the boards to examine mine inspectors are now appointed from among the most skillful miners actually engaged in said business in their respective districts, and who must have had five years' practical experience in the same. The said persons so appointed shall each serve for a term of two years from the date on which their appointment takes effect, and they shall be appointed upon or before the expiration of the term of the present members of the "Miners' Examining Board," and they shall be and constitute the "Miners' Examining Board" for their respective districts, and shall hold the office for the term for which they were appointed, or until their successors are duly appointed and qualified, and shall receive as compensation for their services three dollars per day for each day actually engaged in this service, and all legitimate and necessary expenses incurred in attending the meetings of said board under the provisions of this act, and no part of the salary of said board or expenses thereof shall be paid out of the State Treasury.

Each of said boards shall organize by electing one of their members president, and one member as secretary, and by dividing themselves into three sub-committees for the more convenient discharge of their duties, each of said committees shall have all powers hereinafter conferred upon the board; and whenever in this act the words "Examining Board" are used, they shall be taken to include any of the committees thereof.

Every member of said board shall, within ten days of their appointment or being apprised of the same, take and subscribe an oath or affirmation before a properly qualified officer of the county in which they reside, that they will faithfully and impartially discharge the duties of their office.

Any vacancies occurring in said board shall be filled in the manner hereinbefore provided from among such only as are eligible for original appointment.

Section 3. Each of said examining boards shall designate some convenient place within their districts for the meeting of the several committees thereof, and

of which due notice shall be given by advertisement in two or more newspapers of the proper county, and so divided as to reach as nearly as practicable all the mining districts therein; but in no case shall such meeting be held in a building where any intoxicating liquors are sold.

Notice to be given.

Shall not be held in building where liquors are sold.

Each of said committees shall open at the designated place of meeting a book of registration, in which shall be registered the name and address of each and every person duly qualified under this act to be employed as a miner in an anthracite coal mine. And it shall be the duty of all persons employed as miners to be properly registered, and in case of a removal from the district in which a miner is registered, it shall be his duty to be registered in the district to which he removes.

Committee shall open book of registration.

Miners shall register.

Registration in case of removal.

Application for registration only may be sent by mail to the board after being properly attested before any person authorized to administer an oath or affirmation in the county in which the applicant resides. The form of application shall be subject to such regulation as may be prescribed by the boards, but in no case shall any applicant be put to any unnecessary expense in order to secure registration.

Applications for registration.

Form of application.

Section 4. Each applicant for examination and registration and for the certificate hereinafter provided, shall pay a fee of one dollar to the said board, and a fee of twenty-five cents shall be charged for registering any person who shall have been examined and registered by any other said board, and the amount derived from this source shall be held by said boards and applied to the expenses and salaries herein provided and such as may arise under the provisions of this act; and the said boards shall report annually, to the court of common pleas of their respective counties and the Bureau of Mines and Mining all moneys received and disbursed under the provisions of this act, together with the number of miners examined and registered under this act and the number who failed to pass the required examination.

Fee for examination and registration.

How amounts received shall be expended.

Boards shall report to court and Bureau of Mines and Mining.

Section 5. That it shall be the duty of each of the said boards to meet once every month and not oftener, and said meeting shall be public, and if necessary, the meeting shall be continued to cover whatever portion may be required of a period of three days in succes-

Boards shall meet once every month.

Length of meeting

Board shall grant certificate of competency, etc.

Holder can be registered in other districts.

Qualifications of applicant for certificate of competency.

Applicant must appear in person and answer.

And be properly identified.

Board shall keep record of all proceedings.

Contents of said record.

Certificates shall not be transferable.

Issuing of certificates.

Persons shall not engage as miners without certificate.

Nor shall persons employ such.

sion, and examine under oath all persons who shall desire to be employed as miners in their respective districts; and said board shall grant such persons as may be qualified, certificates of competency or qualification which shall entitle the holders thereof to be employed as and to do the work of miners as may be expressed in said certificate, and such certificates shall be good and sufficient evidence of registration and competency under this act; and the holder thereof shall be entitled to be registered without an examination in any other of the anthracite districts upon the payment of the fee herein provided.

All persons applying for a certificate of competency, or to entitle them to be employed as miners, must produce satisfactory evidence of having had not less than two years' practical experience as a miner, or as a mine laborer in the mines of this Commonwealth, and in no case shall an applicant be deemed competent unless he appear in person before the said board and answer intelligently and correctly at least twelve question in the English language pertaining to the requirements of a practical miner, and be properly identified under oath, as a mine laborer by at least one practical miner holding miner's certificate. The said board shall keep an accurate record of the proceedings of all its meetings, and in said record shall show a correct detailed account of the examination of each applicant, with the questions asked and their answers, and at each of its meetings the board shall keep said record open for public inspection. Any miner's certificate granted under the provisions of this act, and the hereinafter mentioned act approved the ninth day of May, Anno Domini one thousand eight hundred and eighty-nine, shall not be transferable to any person or persons whatsoever, and any transfer of the same shall be deemed a violation of this act. Certificates shall be issued only at meetings of said board, and said certificates shall not be legal unless then and there signed in person by at least three members of said board.

Section 6. That no person shall hereafter engage as a miner in any anthracite coal mine without having obtained such certificate as aforesaid. And no person shall employ any person as a miner who does not hold such certificate as aforesaid, and no mine fore-



man or superintendent shall permit or suffer any person to be employed under him, or in the mines under his charge and supervision as a miner, who does not hold such certificate. Any person or persons who shall violate or fail to comply with the provisions of this act, shall be guilty of a misdemeanor, and on conviction thereof shall be sentenced to pay a fine not less than one hundred dollars and not to exceed five hundred dollars, or shall undergo imprisonment for a term not less than thirty days and not to exceed six months, or either, or both, at the discretion of the court.

Violation of act declared a misdemeanor.

Penalty.

Section 7. The persons who are now serving as members of the Miners' Examining Board as created by the act approved the ninth day of May, Anno Domini one thousand eight hundred and eighty-nine, entitled "An act to provide for the examination of miners in the anthracite region of this Commonwealth, and to prevent the employment of incompetent persons as miners in anthracite coal mines," shall continue under the provisions of this act to serve as members of the "Miners' Examining Board" until the terms for which they were appointed under the provisions of the said act approved the ninth day of May, Anno Domini one thousand eight hundred and eighty-nine, shall have expired, and in the performance of the duties of their office they shall be subject to the provisions and requirements of this act.

Members of Miners' Examining Board appointed under act of May 9, 1889, shall continue until the expiration of their terms.

But shall be subject to the provisions of this act.

Section 8. Nothing in this act shall be construed to in any way, excepting as herein provided, affect miners' certificates which have been lawfully issued under the provisions of the herein mentioned act, approved the ninth day of May, Anno Domini one thousand eight hundred and eighty-nine.

Construction of this act.

Section 9. It shall be the duty of the several Miners' Examining Boards to investigate all complaints or charges of non compliance or violation of the provisions of this act, and to prosecute all persons so offending; and upon their failure so to do, then it shall become the duty of the district attorney of the county wherein the complaints or charges are made to investigate the same and prosecute all persons so offending, and it shall at all times be the duty of the district attorney to prosecute such members of the Miners' Examining Board as have failed to perform their duty under the provisions of this act; but nothing herein

Board shall investigate complaints and prosecute offenders.

Duty of district attorney.

Citizens of this Commonwealth may prosecute.

Office may also be declared vacant.

Miners' Examining Board shall administer oath.

Repeal.

contained shall prevent any citizen a resident of this Commonwealth, from prosecuting any person or persons violating this act, with power to employ private counsel to assist in the prosecution of the same; upon conviction of any member of the Miners' Examining Board for any violation of this act, in addition to the penalties herein provided, his office shall be declared vacant, and he shall be deemed ineligible to act as a member of the said board.

Section 10. For the purposes of this act the members of the said "Miners' Examining Board" shall have power to administer oaths.

Section 11. All acts or parts of acts inconsistent herewith are hereby repealed.

Approved—The 15th day of July, A. D. 1897.

DANIEL H. HASTINGS.

## AN ACT

To amend the tenth section of article ten of an act, entitled "An act to provide for the health and safety of persons employed in and about the anthracite coal mines of Pennsylvania, and for the protection and preservation of property connected therewith," approved the second day of June, Anno Domini one thousand eight hundred and ninety-one, providing that self-acting doors are used.

Section 1. Be it enacted, etc., That the tenth section of article ten of an act, entitled "An act to provide for the health and safety of persons employed in and about the anthracite coal mines of Pennsylvania, and for the protection and preservation of property connected therewith," approved the second day of June, Anno Domini one thousand eight hundred and ninety-one, which reads as follows:

Section 10 of article X of act of June 2, 1891, cited for amendment.

"All main doors shall have an attendant whose constant duty it shall be to open them for transportation and travel and prevent them from standing open longer than is necessary for persons or cars to pass through," be and the same is hereby amended to read as follows:



All main doors shall have an attendant whose constant duty it shall be to open them for transportation and travel and prevent them from standing open longer than is necessary for persons or cars to pass through, unless a self-acting door is used which is approved by the inspector of the district.

Main doors, unless self-acting, must have an attendant.

Approved—The 20th day of April, A. D. 1899.

WILLIAM A. STONE.

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## AN ACT

Relating to anthracite mines, and providing for the care and life and attention of employes injured in and about said mines.

Section 1. Be it enacted, &c., That within six (6) months after the passage of this act, it shall be unlawful to operate any anthracite mine, employing ten (10) men or more, in the State of Pennsylvania, unless said mine is provided with a sufficient quantity of linseed or olive oil bandages, linen, splints, woolen and waterproof blankets. Said articles shall be stored in a room, erected at convenient place in the mine, which room shall not be less than eight by twelve feet, and sufficiently furnished, lighted, clean and ventilated so that therein medical treatment may be given injured employes in case of emergency. The furnishings shall be sufficient to accommodate two or more persons, in a reclining and sitting posture.

Emergency supplies.

Medical room.

Section 2. It shall be the duty of the mine foreman or his assistants, in case of injury to any employe by explosion of gas or powder, or by any cause while said miners are at work in said mines, to at once visit the scene of accident, see that the injured is carefully wrapped in woolen blankets and removed to the "medical room," and so treated with oils or other remedies as will add to the comfort and care of the patient. After being treated with all the skill known to the foreman or his assistants, the injured person shall be carefully wrapped up and sent to the surface, to be taken home in an ambulance or to the mining hospital, as may be desired, without expense to the injured party.

Duty of foreman and his assistants.

Care and treatment of the injured.

Section 3. Where accident to any employe involves injury to limbs or causes loss of blood, the foreman or his assistants shall see that the bandages, splints and linen shall be applied where necessary to prevent loss of blood and relieve pain. The foreman shall, in all cases, see that the injured person is sent to the surface without delay. He shall also keep a book showing required articles on hand, name of persons injured, nature of injury, treatment, and by whom treated at time of accident.

Record to be kept.

Duty of Inspector.

Section 4. It shall be the duty of the mine inspector to visit each of the medical rooms in his district at least once in six months; see that the law is complied with; examine records of the medical room. He shall notify the county coroner of any neglect or non-compliance with the provisions of this act by any operator, which information shall be regarded as evidence on any inquest that may be held on employes dying from injuries received while working in such anthracite mine.

Misdemeanor.

Section 5. The neglect or refusal to perform the duties required to be performed by any section of this act, by the parties therein required to perform them, or the violation of any of the requirements hereof, shall be deemed a misdemeanor, and shall, upon, conviction thereof in the court of quarter sessions of the county wherein the misdemeanor was committed, be punishable by a fine not exceeding five hundred dollars, or imprisonment in the county jail for a period not exceeding six months, or both, at the discretion of the court.

Fine and penalty.

Right of action.

Section 6. That for any injury to employes, occasioned by any violation of the act, or any failure to comply with its provisions, by any owners, operators or superintendent of any coal mine or colliery, a right of action shall accrue to the party injured against said owner or operator, for any direct injuries he may have sustained thereby; and in case of loss of life, limb or bodily power, by reason of such neglect or failure aforesaid, a right of action shall accrue to the person, widow or lineal heirs, for the recovery of damages for the injury he or they shall have sustained.

Recovery.

Terms defined.

Section 7. The term "coal mine," as herein used, includes the shafts, slopes, drifts or inclined planes, connected with the excavations penetrating coal stratum

or strata, which excavations are ventilated by one general air current, or division thereof, and connected by one general system of mine railroads, over which coal may be delivered to one or more parts outside the mine. The term "mine foreman" means the person who shall have, on behalf of the operators, immediate supervision of a coal mine. The term "operator" means any firm, corporation or individual operating any coal mine. The term "anthracite mine" shall include any coal mine not now included in the bituminous boundaries.

Section 8. That all acts or parts of acts inconsistent herewith be, and the same are hereby repealed, and all local laws inconsistent herewith are hereby repealed. Repeal.

Approved—The 29th day of May, A. D. 1901.

WILLIAM A. STONE.

## ARTICLE II OF THE ACT OF JUNE 2, 1891, AS AMENDED BY THE ACT OF JUNE 8, 1901.

### Inspectors and Inspection Districts

Section 1. The counties of Luzerne, Lackawanna, Carbon, Schuylkill, Northumberland and Columbia, shall be divided into six inspection districts, as follows: Counties and their division into six districts.

Section 2. First district—The county of Luzerne. Districts.

Second district—The county of Lackawanna.

Third district—The county of Carbon.

Fourth district—The county of Schuylkill.

Fifth district—The county of Northumberland.

Sixth district—The county of Columbia.

Section 3. In order to fill any vacancy that may occur in the office of Inspector of Mines by reason of the expiration of term, resignation, removal for cause or from any other reason whatever, the judges of the court of Lackawanna county shall appoint an examining board for the county of Lackawanna, and the judges of the court of Luzerne county shall appoint an examining board for the counties of Carbon and Luzerne, and the judges of Schuylkill county shall appoint an examining board for the counties of Schuylkill, Northumberland and Columbia. Filling of vacancies.

Section 4. The said Board of Examiners shall be composed of three reputable coal miners in actual Board of Examiners.

	practice and two reputable mining engineers, all of whom shall be appointed at the first term of court in each year, to hold their places during the year. Any
Vacancies.	vacancies that may occur in the Board of Examiners shall be filled by the court as they occur. The said
Clerk.	Board of Examiners shall be permitted to engage the services of a clerk, and they, together with the clerk
Compensation and mileage.	shall each receive the sum of five (5) dollars per day for every day they are actually engaged in the discharge of their duties under this appointment, and mileage at the rate of six cents per mile from their home to the place of meeting and return, by the nearest practicable railway route.
Notice of examination to be published.	Section 5. Whenever candidates for the office of Inspector are to be examined, the said examiners shall give public notice of the fact in not more than five newspapers published in the inspection district, and at least two weeks before the meeting, specifying the time and place where such meeting shall be held.
Examiners to be sworn.	The said examiners shall be sworn to a faithful discharge of their duties, and at least four of them shall sign a certificate, setting forth the fact of the applicants having passed a successful examination, and who have answered ninety per centum of the questions; the names of the applicants, the questions asked and answers thereto, shall be sent to the Secretary of the Commonwealth, and published in at least two papers, daily or weekly, and shall give such certificate to only such applicant as has passed the required examination.
Recommendations to be sent to the Secretary of the Commonwealth.	
Examinations.	Section 6. The said Board of Examiners shall hold at least one such examination during each year, at least six months before the date of the general election, in the month of November of each year.
Election of inspectors.	Section 7. At the next general election in November, the qualified voters of the First inspection district shall elect five qualified persons to act as Mine Inspectors of this Commonwealth; the qualified voters of the Second inspection district shall elect four qualified persons to act as Mine Inspectors of this Commonwealth; the qualified voters of the Third inspection district shall elect one qualified person to act as Mine Inspector of this Commonwealth; the qualified voters of the Fourth inspection district shall elect four qualified persons to act as Mine Inspectors of



this Commonwealth; the qualified voters of the Fifth inspection district shall elect one qualified person to act as Mine Inspector of this Commonwealth: Provided, That the present Mine Inspectors in the several inspection districts shall continue in office until the expiration of the terms for which they have been appointed, and the number of inspectors to be elected at the coming election shall be reduced by the number of Inspectors now regularly appointed and serving in said districts. When the terms of the present Inspectors shall expire, their successors shall be elected in accordance with the provisions of this act. At the said first election under this act in November, Anno Domini one thousand nine hundred and two, for said Inspectors, the qualified electors of the First inspection district shall elect two Inspectors; the qualified electors of the Second inspection district shall elect two Inspectors; the qualified electors of the Fourth inspection district shall elect two inspectors; the qualified electors of the Fifth inspection district shall elect one Inspector; and the qualified electors of the Sixth inspection district shall elect one Inspector. At the expiration of the term of office of any of the present Inspectors, who hold office under the appointment of the Governor of the Commonwealth, the qualified electors of the Third inspection district shall elect one Inspector, and as further vacancies are caused by the expiration of the term of office of the present Inspectors, the qualified electors of the several inspection districts shall elect Inspectors to take their places, beginning with the First inspection district, then the Second inspection district, Third inspection district, Fourth inspection district, Fifth inspection district and Sixth inspection district, until each inspection district has its full quota of elected inspectors under this act. Said Inspectors, elected under this act, shall be under the directions of the Chief of the Bureau of Mines, who shall assign districts to the several Inspectors in the respective counties in which they are elected.

Provided,

Inspectors to be elected in November, 1902,

Election to fill vacancies.

Section 8. Candidates for the office of Mine Inspector shall file with the county commissioners a certificate from the mine examining board, as above set forth, before their names shall be allowed to go upon the ballot as provided by the county commissioners

Candidate shall file certificate with the county commissioners.



for the general election; and the name of no person shall be placed upon the official ballot except such as has filed the certificate as herein required; and no person shall be qualified to act as such Mine Inspector unless such certificate has been previously filed with the county commissioners of his county.

Inspectors must be citizens of Pennsylvania.

Section 9. The person so elected must be a citizen of Pennsylvania and shall have attained the age of thirty years. He must have a knowledge of the different systems of work in coal mines, and he must produce satisfactory evidence to the Board of Examiners of having had at least five years' practical experience in anthracite coal mines of Pennsylvania. He must have had experience in coal mines where noxious and explosive gases are evolved.

Experience<sup>o</sup> required.

Shall be sworn.

Before entering upon the duties of his office he shall take an oath or affirmation, before an officer properly qualified to administer the same, that he will perform his duties with fidelity and impartiality; which oath or affirmation shall be filed in the office of the prothonotary of the county. He shall provide himself with the most modern instruments and appliances for carrying out the intentions of this act.

Filing of oath.

Salary.

Section 10. The salary of each of the said Inspectors shall be three thousand dollars per annum, which salary, together with the expenses incurred in carrying into effect the provisions of this act, shall be paid by the State Treasurer out of the Treasury of the Commonwealth upon the warrant of the Auditor General.

Term of office.

Section 11. Each of the said Inspectors shall hold said office for a term of three years from the first Monday of January immediately succeeding his election to said office, and until his successor is duly elected and qualified.

Section 12. It shall be the duty of the Chief of Bureau of Mines and Mining to direct one or more of the Inspectors who shall be elected under this act, and it shall be the duty of said Inspectors to obey said orders of the said Chief of Bureau of Mines and Mining, to inspect such collieries as come under the act to which this act is an amendment in counties not mentioned in this amendment to said act, in such manner and at such times as is required by law, and the inspectors inspecting said collieries shall make and include in their return a due report of said inspection.

Inspection of collieries in other counties than those named.

Section 13. In case of death, resignation, removal from office, or other vacancies in the office of Mine Inspector before the expiration of said term of office, the judges of the court of common pleas of the county in which said vacancy occurs shall appoint a duly qualified person to fill said vacancy for the unexpired term. Said appointee to be one of the persons having filed with the county commissioners of said county a certificate from the Board of Examiners, showing he passed a successful examination before the said Board, and is duly qualified as hereinbefore mentioned.

Appointment to  
fill vacancies.

Appointee shall  
have filed a  
certificate.

Section 14. In case the Inspector becomes incapacitated to perform the duties of his office for a longer period than two weeks, it shall be the duty of the judges of the court of common pleas of the county from which said Inspector was elected to deputize some competent person, recommended by the Board of Examiners, to fill the office of Inspector until the said Inspector shall be able to fulfil the duties of his office, and the person so appointed shall be paid in the same manner as is provided for the Inspector of Mines.

When and how  
deputy may be ap-  
pointed.

Section 15. Each of the said Inspectors shall reside in the district for which he is elected, and shall give his whole time and attention to the duties of his office. He shall examine all the collieries in his district at least once every two months, as often in addition thereto as the necessities of the case or the condition of the mines require. He shall see that every necessary precaution is taken to secure the safety of the workmen and that the provisions of this act are observed and obeyed; and he shall personally visit each working face, and see that the air-current is carried to the working faces and is of sufficient quantity or volume to thoroughly ventilate the places. He shall every three months make a report of the condition of each working face in each colliery, on a form to be furnished to the inspectors by the Chief of the Bureau of Mines and Mining, designating the gangway in which the working is situated, and the breast number of said working and their condition shall be designated by the words, good, fair, or bad, as the circumstances may warrant; and the said report, or a duplicate, shall be placed in a weather and dust-proof case, with a glass front; said case to be furnished by the

Inspectors shall  
reside in district  
where elected.

Duties.

Ventilation.

Reports.

Reports to be ex-  
hibited.

Certificate.	operator, and placed in a conspicuous place at each mine opening, shaft, slope or drift, so that the workmen have easy access thereto. He shall certify in said report that the employes are hoisted to the surface of the ground or given access thereto according to law; he shall attend every inquest held by the coroner or his deputy upon the bodies of persons killed in or about the collieries in his district; he shall visit the scene of the accident, for the purpose of making an examination into the particulars of the same, wherever loss of life or serious personal injury occurs.
Shall attend inquests.	as elsewhere herein provided for, and make an annual report of his proceedings to the Secretary of Internal Affairs of the Commonwealth at the close of every year, enumerating all the accidents in and about the collieries in his district, marking in tabular form those accidents causing death or serious personal injury; the condition of the workings of the said mines with regard to the safety of the workmen therein and the ventilation thereof, and the results generally shall be fully set forth; and such other duties as now are or hereafter may be required by law.
Annual report.	
Elections.	Section 16. The nomination and election of said mine inspectors shall be under the general election laws of this Commonwealth.
To have right of entry, and may be accompanied by another inspector.	Section 17. The Mine Inspector shall have the right, and it is hereby made his duty, to enter, inspect and examine any mine or colliery in the territory allotted to him and the workings and machinery belonging thereto, at all reasonable times, either by day or by night, but not so as to obstruct or impede the working of the colliery, and shall have power to take one or more of his fellow inspectors into or around any mine or colliery in the territory allotted to him, for the purpose of consultation or examination.
Shall inquire into the condition of mine or colliery.	He shall also have the right, and it is hereby made his duty to make inquiry into the condition of such mine or colliery workings, machinery, ventilation, drainage, method of lighting or using lights, and into all matters and things connected with or relating to, as well as to make suggestions providing for, the health and safety of persons employed in or about the same, and especially to make inquiry whether the provisions of this act have been complied with.



The owner, operator or superintendent of such mine or colliery is hereby required to furnish the means necessary for such entry, inspection, examination, inquiry and exit.

Owner to furnish means.

The inspector shall make a record of the visit, noting the time and material circumstances of the inspection.

Record.

Section 18. No person who shall act or practice as a land agent or as a manager or agent of any coal mine or colliery, who is pecuniarily interested in operating any coal mine or colliery, shall at the same time hold the office of Inspector of Mines under this act.

Inspectors shall not be pecuniarily interested.

Section 19. Whenever a petition signed by fifty or more reputable coal miners, or by fifteen or more reputable coal operators, or more, or both, setting forth that any inspector of mines neglects his duties, or is incompetent, or is guilty of malfeasance in office, it shall be the duty of the court of common pleas from which said Inspector was elected to issue a citation, in the name of the Commonwealth, to the said Inspector to appear at not less than five days' notice, on a day fixed, before said court, and the court shall then proceed to inquire into and investigate the allegations of the petitioners. If the court finds that the said Inspector is neglectful of his duties, or is incompetent to perform the duties of his office for any cause that existed previous to his election, or that has arisen since his election, or that he is guilty of malfeasance in office, the court shall declare the said Inspector removed from office and proceed to fill the vacancy. The cost of said investigation shall be borne by the removed Inspector; but if the allegations in the petition are not sustained, the cost shall be paid by the Treasurer of this Commonwealth upon warrant of the Auditor General, or by the petitioners in case the court finds that there was no probable ground for said charge.

Charges of neglect or incompetency, how they shall be presented, etc

Removal.

Costs.

Section 20. The maps and plans of the mines and the records thereof, together with all the papers relating thereto, shall be kept by the inspector, properly arranged and preserved, in a convenient place in the territory to which the inspector has been allotted, and shall be transferred by him, with any other property of the Commonwealth that may be in his possession, to his successor in office.

Maps and plans of mines.

Act to take effect.

Section 21. This act shall go into effect from the first day of January, Anno Domini one thousand nine hundred and two.

Repeal.

Section 22. All acts or parts of acts inconsistent with the provisions of this act are hereby repealed.

Approved—The 8th day of June, A. D. 1901.

WILLIAM A. STONE.



# GENERAL MINING LAWS

## AN ACT

To provide payment to the miner for all clean coal mined by him.

Section 1. Be it enacted, &c., That from and after the passage of this act all individuals, firms and corporations engaged in mining coal in this Commonwealth, who, instead of dumping all the cars that come from the mine into a breaker or chutes, shall switch out one or more of the cars for the purpose of examining them, and determining the actual amount of slate or refuse, by removing said slate or refuse from the car, and who shall, after so doing, wilfully neglect to allow the miner in full for all clean coal left after the refuse, dirt or slate is taken out, at the same rate paid at the mine for clean coal, less the actual expense of removing said slate or refuse, he shall be deemed guilty of a misdemeanor.

Wilful neglect to pay miners for all clean coal, less the cost of cleaning, deemed a misdemeanor.

Section 2. That any individual, firm or corporation as aforesaid, violating the provisions of this act, upon suit being brought and conviction had, shall be sentenced by the court to pay a fine of not more than one hundred dollars, and to make restitution by paying to the miner the amount to which, under this act, he would be entitled for the coal mined by him, and for which he was not paid.

Penalty.

Restitution to be made.

Approved—The 13th day of June, A. D. 1883.

ROBT. E. PATTISON.

## AN ACT

To provide for the recovery of the bodies of workmen enclosed, buried or entombed in coal mines.

Section 1. Be it enacted, &c., That whenever any workman or workmen shall heretofore have been, or shall hereafter be enclosed, entombed or buried in

Duty of court.

any coal mine in this Commonwealth, it shall be the duty of the court, sitting in equity, in the county wherein such workman or workmen are enclosed, entombed or buried, upon the petition of any of the relatives of those enclosed, entombed or buried, to make an order of court for the petitioner to take testimony in order that the court may ascertain whether such workman or workmen, or the body or bodies of such workman or workmen, can be recovered or taken out of said mine.

Mandamus to owner, etc., of mines, for recovery of bodies.

If, after full hearing, it shall appear to the court that such undertaking is feasible or practicable, said court may forthwith issue a peremptory mandamus to the owner or owners, lessee or lessees, operator or operators of such coal company, to forthwith proceed to work for and recover and take out the body or bodies of such workman or workmen, and said court shall have full authority to enforce such peremptory mandamus in the manner already provided for the enforcement of such process.

Approved—The 9th day of May, A. D. 1889.

JAMES A. BEAVER.

## AN ACT

For the better protection of employes in and about the coal mines by preventing mine superintendents, mine foremen and assistants from receiving or soliciting any sums of money or other valuable consideration from men while in their employ, and providing a penalty for violation of the same.

Receiving or soliciting money declared a misdemeanor.

Section 1. Be it enacted, &c., That on and after the passage of this act any mine superintendent, mine foreman or assistant foreman, or any other person or persons who shall receive or solicit any sum of money or other valuable consideration, from any of his or their employes for the purpose of continuing in his or their employ, or for the purpose of procuring employment, shall be guilty of a misdemeanor, and upon conviction shall be subject to a fine not less than fifty dollars, nor more than three hundred dollars, or undergo an imprisonment of not less than six months, or both, at the discretion of the court.

Penalty.

Section 2. All acts or parts of acts inconsistent herewith be and the same are hereby repealed. Repeal.

Approved—The 15th day of June, A. D. 1897.

DANIEL H. HASTINGS.

## AN ACT

To regulate the weight of all black blasting powder used, made, or sold in kegs, for use in the coal mines within the Commonwealth of Pennsylvania, and providing for the proper stamping of the kegs containing said powder and making it unlawful for the use of any such kegs for containing said black blasting powder save only by the person, firm or corporation whose name is stamped on said kegs, and providing penalties for the violation of any of the provisions of this act.

Section 1. Be it enacted, &c., That on and after the first day of August, Anno Domini one thousand nine hundred and one, each and every keg of black blasting powder used, manufactured or sold in and around the coal mines of this Commonwealth, shall contain twenty-five pounds of said black blasting powder, standard weight; every one-half keg shall contain twelve and a half pounds of said black blasting powder, standard weight, and every quarter keg shall contain six and one-quarter pounds of said black blasting powder, standard weight; each of said kegs to be plainly stamped with the name of the person, firm or corporation manufacturing said powder, and also the number of pounds of powder contained in said keg.

Weight of kegs of blasting powder regulated.

Kegs to be stamped with weight of powder and name of manufacturer.

Section 2. Any manufacturer or dealer in said black blasting powder, making or selling, or causing to be made or sold, any keg, half-keg or quarter-keg of said black blasting powder containing less weight of said powder than specified in this act, or which keg shall not be stamped as required in section one of this act, shall be subject to a penalty of five dollars for each and every keg, half-keg or quarter-keg, manufactured or sold, which does not contain the respective weights of black blasting powder set forth in the foregoing section.

Violation of act.

Penalty.

Wrongful use of  
kegs.

Section 3. It shall not be lawful for any other person, firm or corporation, save only such person, firm or corporation whose name shall be stamped on said kegs, to use any such stamped keg for the purpose of containing said black blasting powder.

Fine.

Section 4. Any person, firm or corporation violating the provisions of section three of this act shall be subject to a fine of not less than five hundred (\$500) dollars nor more than one thousand (\$1,000) dollars.

Repeal

Section 5. All acts or parts of acts inconsistent herewith are hereby repealed.

Approved—The 24th day of April, A. D. 1901.

WILLIAM A. STONE.

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## AN ACT

To establish a Department of Mines in Pennsylvania; defining its purposes and authority; providing for the appointment of a Chief of said Department, and assistants, and fixing their salaries and expenses.

Department of  
Mines.

Section 1. Be it enacted, &c., That there is hereby established in Pennsylvania a Department known as the Department of Mines, which shall be charged with the supervision of the execution of the mining laws of this Commonwealth, and the care and publication of the annual reports of the inspectors of coal mines and any and all other mines that may come under the provisions of the mining laws of this Commonwealth.

Duties and pow-  
ers of.

Chief of the De-  
partment of  
Mines.

Section 2. The chief officer of this Department shall be denominated Chief of the Department of Mines, and shall be appointed by the Governor, by and with the advice and consent of the Senate, within thirty days after the final passage of this act, and every four years thereafter, who shall be commissioned by the Governor to serve a term of four years from the date of his appointment, and until his successor is duly qualified, and in case of a vacancy in the office of chief of said Department, by reason of death, resignation or otherwise, the Governor shall appoint a qualified person to fill such vacancy for the unexpired balance of the term.

Appointment of  
by the Governor.

Term and salary  
of.

Section 3. The Chief of the Department of Mines



shall be a competent person, having at least ten years' practical experience as a miner and the qualifications of the present mine inspectors. The said Chief of the Department of Mines, so appointed, shall, before entering upon the duties of his office, take and subscribe to the oath of office prescribed by the Constitution, the same to be filed in the office of the Secretary of the Commonwealth, and give to the Commonwealth a bond in the penal sum of ten thousand dollars, with surety, to be approved by the Governor, conditioned for the faithful discharge of the duties of his office.

Qualification.

Oath.

Bond.

Section 4. It shall be the duty of the Chief of the Department to devote the whole of his time to duties of his office, and to see that the mining laws of the State are faithfully executed; and for this purpose he is hereby invested with the same power and authority as the mine inspectors, to enter, inspect and examine any mine or colliery within the State, and the works and machinery connected therewith, and to give such aid and instruction to the mine inspectors from time to time, as he may deem best calculated to protect the health and promote the safety of all persons employed in and about the mines; and the said Chief of the Department of Mines shall have the power to suspend any mine inspector for any neglect of duty, but such suspended mine inspector shall have the right of appeal to the Governor, who shall be empowered to approve of such suspension or restore such suspended mine inspector to duty, after investigating the causes which led to such suspension. Should the Chief of Department of Mines receive information by petition, signed by ten or more miners or three or more operators, setting forth that any of the mine inspectors are neglectful of the duties of their office, or are physically unable to perform the duties of their office or are guilty of malfeasance in office, he shall at once investigate the matter; and if he shall be satisfied that the charge or charges are well founded, he shall then petition the court of common pleas or the judge in chambers, in any county within or partly within the inspection district of the said mine inspector; which court upon receipt of said petition and a report of the character of the charges and testimony produced, shall at once issue a citation, in the name of

Power and authority of the Chief.

May suspend mine inspectors for neglect of duty.

Appeal.

Petition of miners or operators.

Investigation

Citation.



Inquiry by the court.

Certificate of court to the Governor.

The costs.

Chief of Department empowered to administer oaths and take affidavits.

Proviso.

the Commonwealth, to the said inspector to appear, on not less than fifteen days' notice, on a fixed day, before said court, at which time the court shall proceed to inquire into the allegations of the petitioners, and may require the attendance of such witnesses, on the subpoena issued and served by the proper officer or officers, as the judge of the court and the Chief of said Department may deem necessary in the case; the inspector under investigation shall also have similar power and authority to compel the attendance of witnesses in his behalf. If the court shall find by said investigation that the said mine inspector is guilty of neglecting his official duties, or is physically incompetent to perform the duties of his office, or is guilty of malfeasance in office, the said court shall certify the same to the Governor, who shall declare the office vacant, and shall proceed to supply the vacancy as provided by the mining laws of the State. The cost of such investigation shall, if the charges are sustained, be imposed upon the deposed mine inspector, but if the charges are not sustained, the costs shall be paid out of the State Treasury, upon voucher or vouchers duly certified by said Chief of Department.

To enable said Chief of the Department of Mines to conduct more effectually his examinations and investigations of the charge and complaints which may be made by petitioners against any of the mine inspectors as herein provided, he shall have power to administer oaths and take affidavits and depositions, in form and manner provided by law: Provided, however, That nothing in this section shall be construed as to repeal section thirteen of article two of the act of Assembly, approved the second day of June, Anno Domini one thousand eight hundred and ninety-one, entitled "An act to provide for the health and safety of persons employed in and about the anthracite coal mines of Pennsylvania, and for the protection and preservation of property connected therewith," and also articles thirteen and fourteen of an act of Assembly, approved the fifteenth day of May, Anno Domini one thousand eight hundred and ninety-three, entitled "An act relating to bituminous coal mines, and providing for the lives, health, safety and welfare of persons employed therein."

Section 5. It shall be the duty of the Chief of the

Department of Mines to take charge of, and preserve in his office, the annual reports of the mine inspectors, and transmit a synopsis of them, together with such other statistical data compiled therefrom, and other work of the Department as may be of public interest, properly addressed to the Governor, to be transmitted to the General Assembly of this Commonwealth, on or before the fifteenth day of March in each year. It shall also be the duty of the Chief of Department of Mines to see that said reports are placed in the hands of the public printer for publication, on or before the first day of April in each year; the same to be published under the direction of the Chief of the Department of Mines. In order that the Chief of the said Department may be able to prepare, compile and transmit a synopsis of his annual report to the Governor within the time herein specified, the mine inspectors are hereby required to deliver their annual reports to the Chief of said Department on or before the twentieth day of February, in each year. In addition to the annual reports herein required of the mine inspectors, they shall furnish the Chief of the Department of Mines monthly reports, and also such special information on any subject regarding mine accidents, or other matters pertaining to mining interests, or the safety of persons employed in and about the mines, as he at any time may require or may deem necessary, in the proper and lawful discharge of his official duties. The Chief of the Department of Mines shall also establish, as far as may be practicable, a uniform style and size of blanks for the annual, monthly and special reports of the mine inspectors, and prescribe the form and subject matter to be embraced in the text and the tabulated statements of their reports.

The Chief of the Department of Mines is hereby authorized to make such examinations and investigations as may enable him to report on the various systems of coal mining and all other mining practiced in the State, method of mining ventilation and machinery employed, the circumstances and responsibilities of mine accidents; and such other matters as may pertain to the general welfare of coal miners and others connected with mining, and the interests of mine owners and operators in the Commonwealth.

Annual reports of inspectors.

Synopsis of, to be sent to the General Assembly.

Publication of reports.

Reports to be delivered to Chief on or before February 20th, annually.

Monthly reports and special information.

Blanks.

Form and subject matter of reports.

Examination and investigation by the Chief.

Duty of Board of  
Examiners, etc.

Section 6. The Board of Examiners for the examination of applicants for mine inspectors in the Anthracite and Bituminous coal mines of the Commonwealth, the board for the examination of applicants for mine foremen and assistant mine foremen in the anthracite mines, the board for the examination of applicants for first and second grade certificates in the bituminous mines, and the board styled miners' examining board for applicants for certificates of competency as miners, shall send to the Chief of the Department of Mines duplicates of the manuscripts and all other papers of applicants, together with the tally-sheets and the solution of each question as given by the Examining board, which shall be filed in the Department as public documents.

Duplicate papers.

Filing of.

Certificates of  
qualification.

Section 7. Certificates of qualification to mine foremen and assistant mine foremen in the anthracite mines, first and second grade certificates for mine foremen in the bituminous mines, shall be granted by the Chief of the Department of Mines to each applicant who has passed a successful examination. The certificates shall be in manner and form as shall be prescribed by the Chief of the Department of Mines, and a record of all certificates granted shall be kept in the Department. Each certificate shall contain the full name, age and place of birth of the applicant, and also the length and nature of his previous service in the mines. Before the certificates aforesaid shall be granted to mine foremen, assistant mine foremen, foremen of first grade and foremen of second grade, each applicant for the same shall pay the sum of three dollars to the Chief of the Department of Mines. The money so received, less the cost of issuing and recording certificates, shall be turned over in due form to the State Treasurer.

Record of.

Contents of.

Fee.

Journal to be  
kept.

Books, instru-  
ments, chemicals,  
etc.

Section 8. The Chief of the Department of Mines shall keep in the Department a journal or record of all inspections, examinations and work done under his administration, and copies of all official communications; and is hereby authorized to procure such books, instruments, and chemicals, or other tests, as may be found necessary to the proper discharge of his duties under this act, at the expense of the State. All instruments, plans, books and records pertaining to the

office shall be the property of the State, and shall be delivered to his successor in office.

Section 9. The Chief of the Department of Mines is hereby empowered to name an assistant, two clerks, one stenographer, and one messenger.

Assistant, clerks,  
stenographer and  
messenger.

Section 10. The Chief of the Department of Mines shall, at all times, be accountable to the Governor for the faithful discharge of his duties imposed on him by law, and the administration of his office and the rules and regulations pertaining to said Department shall be subject to the approval of the Governor.

Chief to be ac-  
countable to the  
Governor.

Section 11. No person who is acting as a land agent, or as a manager, viewer or agent of any mine or colliery, shall, at the same time, serve as Chief of the Department of Mines under the provisions of this act.

Eligibility of  
Chief.

Section 12. All acts or parts of acts inconsistent with this act be and the same are hereby repealed.

Repeal.

Approved—The 14th day of April, A. D. 1903.

SAML. W. PENNYPACKER.





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